

**RESCUE RAIDER - UNIVERSAL FIELD KIT
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SAFETY

The following safety hints apply to all game operators and service personnel. Specific warnings and cautions will be found throughout this manual where they apply.

WARNINGS

AC POWER CONNECTION. Before connecting the game to the AC power source, verify that the proper voltage-selection plug is installed on the electronic chassis assembly.

PROPERLY GROUND THE GAME. Customers may receive an electrical shock if this game is not properly grounded! To avoid shocks, do not plug in the game until it has been inspected and properly grounded. Sente game should only be plugged into a grounded 3-wire outlet. Customers may receive an electrical shock if the control panel is not properly grounded! After servicing any parts on the panel, check that the grounding wires are secure. Only then should you lock up the game.

DISCONNECT POWER DURING REPAIRS. To avoid electrical shock, disconnect the game from the AC power source before removing or repairing any part of the game. When removing or repairing the monitor, extra precautions must be taken to avoid electrical shock because high voltages may exist within the display circuitry and cathode ray tube (CRT) even after power has been disconnected. Do not touch internal parts of the display with your hands or metal objects! Always discharge the second anode from the CRT before servicing this area of the game. To discharge the CRT: attach one end of a large, well-insulated, 20-kV jumper to ground. Momentarily touch the free end of the grounded jumper to the anode by sliding it under the anode cap. Wait two minutes and discharge the anode again.

USE THE PROPER FUSES. To avoid electrical shock, use replacement fuses which are specified in the parts list for this game. Replacement fuses must match those replaced in fuse type, voltage rating, and current rating. In addition, the fuse cover must be in place during game operation.

HANDLE FLUORESCENT TUBE AND CRT WITH CARE. If you drop a fluorescent tube or CRT and it breaks, it may implode! Shattered glass can fly eight feet or more from the implosion.

CAUTION

PROPERLY ATTACH ALL CONNECTORS. Make sure that the connectors on each printed-circuit board (PCB) are properly plugged in. If they do not slip on easily, do not force them. A reversed connector may damage your game and void the warranty.

W A R N I N G

The parts contained in this field conversion kit must be installed without deviation from the instructions contained in this manual and kit. Failure to follow these instructions in every detail may result in the creation of illegal interference to radio and TV reception.

BALLY MIDWAY has verified that this field conversion kit, when installed in the game(s) specified in this manual, complies with the requirements in Part 15 of the FCC rules for a Class A computing device. Operation of this equipment in a residential area may cause unacceptable interference to radio and TV reception, requiring the operator to take whatever steps are necessary to correct the interference.

BALLY MIDWAY will not be responsible for incomplete or improper conversions, or installation in a game for which this field conversion kit is not intended. If this field conversion kit is installed in a game that is not specified in this manual or in a previously converted game, the operator is required to take whatever steps are necessary to insure compliance with the requirements in Part 15, Subpart J, of the FCC Rules for a Class A computing device.

S P E C I A L N O T E S :

THE PARTS REMOVED, WHILE MAKING MODIFICATIONS
EXPLAINED IN THIS MANUAL, WILL NOT BE REUSED
IN FUTURE GAME CONVERSION KITS.

The word "discard", as used in this manual, makes reference to this fact. All parts removed may be considered usable for other purposes.

Please be advised that when converting a game, it is advisable that all former trademark and copyright registrations be removed in the conversion process.

RESCUE RAIDER GAME REVIEW

The following is a description of how Bally Midway's video game "Rescue Raider" operates. It is composed of two parts: a Game Play description and a Self-Test Mode description.

GAME PLAY

RESCUE RAIDER'S setting is a tropical island of forests, swamps and plains. It is "enemy-occupied" and several hostages are held in a variety of stockades and fortresses. The object of the game is to locate and rescue them as quickly and as "unscathed" as possible (using secret weapons and escape clues), to destroy all the enemies, and then get off the island. One or two players can play, and in the two player mode, the players alternate each time one of them is killed by the enemy. Whenever a player loses his last life, he is always given the option of adding a coin and continuing game play where he left off. The number of coins the player used to reach the end of the game is displayed in the high score table.

During game play, two joysticks are used: one (located on the left side of the control panel) to move a high-tech, anti-tank vehicle that represents the player; and the other (located on the right side of the control panel) to shoot various weapons. There are four levels of playing difficulty. In each level, a special weapon is provided for use against enemy tanks, land mines and armored cars. In addition; to correct aiming, the player must adapt to each weapon against increasingly complicated barriers and an ever-more-aggressive enemy. Sometimes highly sophisticated, the weaponry includes a grenade launcher and cruise missiles. Also, the player's vehicle can become airborne by using a jet-pack. These "special weapons" are used by the player by first finding and picking up the weapons. Then the main machine gun or the currently attached "special weapon" is selected by pressing the "special weapon" button. The screen is vertically divided into two parts, the largest depicting the play field. About one-quarter of the screen's right side resembles a computerized control panel with four different displays. One details the sector of the island presently occupied, with a flashing box to highlight player location and radar blips that pinpoint the positions of secret documents and hostages. The other three displays show the direction to: clues, fuel dumps, ammunition, etc.; the type of weapon currently in use; and a record of hostages rescued and those not yet freed. Scoring (based on enemies destroyed, hostages rescued, and secrets found) is shown at the top of the screen where a gauge also indicates fuel supply. Opportunities to refuel occur throughout the game. The player is awarded one bonus life for each hostage rescued.

The level of game difficulty increases with a northward movement on the island through 4 zones. The player continues to struggle to ward off the enemy, locate clues, fuel, and weapons, circumvent walls and water and rescue hostages, until finally reaching an escape ship in a strongly protected harbor. In order to progress to the next zone, the player must find, destroy and drive thru a "gate" which separates each zone. Upon reaching the escape ship, the player is awarded bonus points for the number of hostages and secret documents retrieved, and for the number of lives and amount of fuel remaining at the end of the game.

SELF-TEST MODE

A special "test mode" is built into the game that allows the operator to check the current game option settings, to view the player statistics that are gathered, and to reset the statistics and the high score table.

The self-test mode is entered by flipping the existing "test switch" (which should be located on or near the coin door) at anytime. The first screen is an input, output and options setting display. While this display is on the screen, ensure that the joystick switches and the "SPECIAL WEAPONS" button are operating correctly. Especially make sure that the 45° positions of both joysticks (where 2 switches are closed at the same time) are easily reached (bend the contact tabs on the joystick to adjust when the switch opens and closes).

While in this mode, the lighted "SPECIAL WEAPONS" control panel button will blink. Make sure the bulb is working.

The current game switch options are also displayed on this screen. Flip the dip switches at SW1 and SW2 to change the option (see "Option Switch Settings" on pages 6 and 7).

Press the START 1 button to go to the next screen. The next screen contains Game Time Statistics, which includes: total plays; total coins; average time per game; average time per coin; maximum game time; and a histogram of game times. (Note: the histogram shows GAME TIME statistics, **not** TIME PER COIN statistics). The important piece of information here is the average time per coin. If the average time per coin is too long, then make the game harder by reducing the number of lives given per coin or by reducing the minimum game time. If it's too short, increase the number of lives per coin or the minimum game time by re-setting the proper option switches.

Press START 1 to go to the next screen: Game Score Statistics. Here is presented the total number of games, the all-time high score, and a histogram of game scores (X 10,000).

To reset the statistics, press START 2, twice. This resets the statistics and the high score table.

Flip the test switch button at any time to go back to game play mode.

RESCUE RAIDER U.R.

OPTION SWITCH SETTINGS

SWITCH NO. 1 (SW1) - AT E1 - LOCATED ON SMUDGE CPU BOARD

//////////////////// VARIOUS GAME PLAY OPTIONS //////////////////////

| <u>DURING GAME PLAY:</u> | SW#1 | SW#2 | SW#3 | SW#4 | SW#5 | SW#6 | SW#7 | SW#8 |
|--|--------------------------|------------------------|------------------------|------------------------|-------------|-------------|-----------|-----------|
| | | | | | NOT USED | NOT USED | | |
| * 4 LIVES ON EACH COIN 5 LIVES ON EACH COIN 6 LIVES ON EACH COIN 3 LIVES ON EACH COIN | ON OFF ON OFF | ON ON OFF OFF | | | | | | |
| * MINIMUM GAME TIME: 90 SECONDS MINIMUM GAME TIME: 60 SECONDS MINIMUM GAME TIME: 45 SECONDS MINIMUM GAME TIME:120 SECONDS | | | ON OFF ON OFF | ON ON OFF OFF | | | | |
| * KEEP HIGH SCORES ON POWER UP RESET HIGH SCORES ON POWER UP | | | | | | | ON OFF | |
| * MUSIC IN ATTRACT NO MUSIC IN ATTRACT | | | | | | | | ON OFF |
| * INDICATED FACTORY RECOMMENDED SETTINGS | PART NO. M051-00J18-A007 | | | | | | | |

RESCUE RAIDER U.R.

OPTION SWITCH SETTINGS

SWITCH NO. 2 (SW2) - AT E2 - LOCATED ON SMUDGE CPU BOARD

//////////////////////////////////// COINS PER CREDIT //////////////////////////////////////

| VARIOUS CREDIT OPTIONS | SW#1 | SW#2 | SW#3 | SW#4 | SW#5 | SW#6 | SW#7 | SW#8 |
|------------------------|------|------|------|------|------|------|------|------|
| FREE PLAY | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF |
| * 1 COIN / 1 CREDIT | ON | ON | | | | | | |
| 1 COIN / 2 CREDITS | OFF | ON | | | | | | |
| 2 COINS / 1 CREDIT | ON | OFF | | | | | | |
| 3 COINS / 1 CREDIT | OFF | OFF | | | | | | |

//////////////////////////////////// COINS ADD BONUS COINS //////////////////////////////////////

| | | | | | | | | |
|----------------------------|--|--|-----|-----|-----|--|--|--|
| * NO BONUS COINS | | | ON | ON | ON | | | |
| 2 COINS ADDS 1 BONUS COIN | | | OFF | ON | ON | | | |
| 3 COINS ADDS 1 BONUS COIN | | | ON | OFF | ON | | | |
| 4 COINS ADDS 1 BONUS COIN | | | OFF | OFF | ON | | | |
| 4 COINS ADDS 2 BONUS COINS | | | ON | ON | OFF | | | |
| 5 COINS ADDS 1 BONUS COIN | | | OFF | ON | OFF | | | |
| 5 COINS ADDS 2 BONUS COINS | | | ON | OFF | OFF | | | |
| 5 COINS ADDS 3 BONUS COINS | | | OFF | OFF | OFF | | | |

//////////////////////////////////// COIN MECH MULTIPLIER //////////////////////////////////////

| | | | | | | | | |
|--|--------------------------|--|--|--|--|--|-----|-----|
| * LEFT COIN MECH X 1 | | | | | | | ON | |
| LEFT COIN MECH X 2 | | | | | | | OFF | |
| * RIGHT COIN MECH X 1 | | | | | | | | ON |
| RIGHT COIN MECH X 4 | | | | | | | | OFF |
| RIGHT COIN MECH X 5 | | | | | | | | ON |
| RIGHT COIN MECH X 6 | | | | | | | | OFF |
| * INDICATED FACTORY RECOMMENDED SETTINGS | PART NO. M051-00J18-A007 | | | | | | | |

RESCUE RAIDER UNIVERSAL FIELD KIT CONVERSION PROCEDURE

The new RESCUE RAIDER Field Conversion Kit is designed to be installed in any upright model game cabinet with a horizontally mounted monitor. Please read these instructions thoroughly before you begin.

Tools Required:

| | |
|-------------------------------------|---------------|
| Nut Driver Set | Hammer |
| Slotted Screw Driver (medium size) | Punch |
| Phillips Screw Driver (medium size) | Power Drill |
| Solder | Drill Bit Set |
| Soldering Iron | Wire Cutter |

REMOVAL OF OLD GAME HARDWARE:

1. Turn the power off to your game cabinet and disconnect it from its' wall outlet.
2. After opening access door(s) of your game cabinet, remove all existing P.C. boards and their mounting hardware. Discard P.C. boards and mounting hardware except for wood screws that can be reused later. Also remove, and save for reuse, ground straps and their mounting hardware.
3. After disconnecting Line Cord from existing Power Chassis Assembly remove Power Chassis, ground straps, and mounting hardware. Discard Power Chassis and its' mounting hardware except for wood screws that can be reused later. Also discard ground straps but save their mounting hardware for reuse.
4. DO NOT REMOVE existing Speaker Cable:
 - A. If your game cabinet's Speaker Cable is part of existing Master Cable (Wire Harness), do not disconnect these cable wires from existing Speaker. Separate out entire length of these cable wires from Master Cable and then cut wires off at their connections to P.C. board connector of Master Cable. Strip a little insulation from each wire for later splicing and soldering.
 - B. If your game cabinet's Speaker wiring is a separate cable assembly, do not disconnect cable wires from existing Speaker. Cut wires off at connection to P.C. board connector. Strip a little insulation from each wire for later splicing and soldering.
5. Completely remove your existing Master Cable (Wire Harness) and discard.
6. Modify existing High Voltage Cable Assembly to be connected to new parts supplied in your kit. Cut off connectors (which did secure to your old Power Chassis) and strip off a little insulation from each wire for later splicing and soldering.
7. Remove existing Control Panel from your game cabinet. Remove all controls and wiring from Control Panel. Leave existing unused cable clamps in same positions for reuse. Discard ground strap but save it's mounting hardware for reuse.

8. Remove existing Viewing Glass and save. Remove and save existing Monitor Bezel for later sizing of new Monitor Bezel.
9. Remove existing Header Attract Art and save for later sizing of new Header Attract Art.

INSTALLATION OF NEW GAME HARDWARE:

NOTE: Follow the steps below, the illustrations given in Figures 1, 2 & 3 (on pages 10, 11 & 12), the assembly illustrations (on pages 16 & 18), the Wiring Diagrams (on page 19).

1. To Install New Parts In Existing Control Panel:

- A. Trim new Overlay (supplied in kit) so that it properly covers old Overlay on Control Panel. Slowly and carefully peel heavy waxed backing paper from new Overlay and place over old Overlay on Control Panel.
- B. We recommend that center marks shown on new Overlay be used in locating new controls. **CAUTION: DO NOT** use given center marks for new "ONE PLAYER START" Push-Button Switch and new "TWO PLAYER START" Push-Button Switch. The spacing between them must be wider. **DO NOT** use given center marks on new Overlay if they conflict with locations of old control holes.
- C. Cut out (or drill) necessary holes for mounting of new controls.
- D. Secure Control Panel to game cabinet.
- E. Install new controls to your newly modified Control Panel as shown in Figure 1 & 2. Mount controls using eight (8) carriage bolts, eight (8) hex head nuts and two (2) Pal nuts from your kit.
- F. Route new Control Panel Cable Assembly and solder its' bare wire ends to terminals of new controls as shown in Figure 2 and Wiring Diagram (page 1 of 2). Reuse existing cable clamps.

IMPORTANT NOTES:

- Activator in each Joystick Assembly is positioned for "8-Way" joystick steering movement. (see "Joystick Assy: Shaft & Plate "Illustration on page 18.)
 - Make sure that when joystick (of either assembly) is pulled in any diagonal (45°) direction, BOTH switches affected MUST BE CLOSED AT THE SAME TIME. "Reaching the diagonals" on both joysticks is CRITICAL TO PROPER GAME PLAY. Necessary switch adjustment requires bending switch contact leaves so that proper closure by joystick movement is achieved.
- E. Install new Game Play Instruction Card on Front of Control Panel where card will be plainly visible and will not block player's view of game.
-
2. Install new POWER CHASSIS ASSEMBLY, new POWER SUPPLY, AUDIO BOARD & MOUNTING PLATE ASSEMBLY, and new CARDRACK WITH CPU BOARD ASSEMBLY to inside of your cabinet in locations as suggested in Figure 3. Transformer on POWER CHASSIS ASSEMBLY should be to your left in your cabinet. We recommend that you use #8 wood screws of sufficient length to secure above new assemblies to your cabinet.

IMPORTANT NOTES:

- Locate "PIN 1" location label on each one of new Master Cable Assembly connectors you will secure to corresponding P.C. board connectors: P1 & P2 (on CPU BOARD) and J2 (on POWER SUPPLY P.C. BOARD). Do this to avoid making incorrect reversed connections.
- Make certain that a pair of black bare-ended wires (in Master Cable Assembly connected to pin 1 of connector P1 of CPU BOARD) BOTH are secured to your existing Coin Door LIGHT GROUND and SWITCH GROUND.

3. To install new Master Cable Assembly (refer to Figure 3 and both wiring diagrams):
 - A. Route new Master Cable Assembly in your cabinet and secure its connectors to assemblies as shown in both wiring diagrams. Reuse existing cable clamps.
 - B. Referring to both wiring diagrams, solder bare wire ends of Master Cable Assembly to existing Coin Door.

NOTE: Solder resistor and diode (supplied in Hardware and Bag Assembly) to Coin Door as shown in Wiring Diagram (page 2 of 2).

IMPORTANT NOTE:

Please observe in both wiring diagrams, the only coin meter voltage provided is for "12 volt" type coin meters.

4. Splice and solder two (2) three foot long wires of new (partial) Speaker Cable Assembly to two bare wire ends of existing Speaker Cable Assembly as shown in Wiring Diagram (page 1 of 2).
5. Modification of existing High Voltage Cables: Monitor; Header Light; and On-Off Switch (see Wiring Diagram (page 1 of 2) and POWER CHASSIS ASSEMBLY Illustration):
 - A. Monitor Cabling Modification:
 - Crimp pins (supplied in kit) onto three (3) bare wire ends of existing Monitor Cabling and plug each pin into 3 position connector housing (supplied in kit).
 - Plug connector P13 into Power Chassis connector J13.
 - B. Header Light Cabling Modification:
 - Crimp pins (supplied in kit) onto three (3) bare wire ends of existing Header Light Cabling and plug each pin into 3 position connector housing (supplied in kit).
 - Plug connector P12 into Power Chassis connector J12.
 - C. New Chassis Power Cable Assembly Installation:
 - Plug connector P11 into Power Chassis connector J11.

6. Secure existing line cord to line cord connector on new POWER CHASSIS ASSEMBLY.

- A. If they don't match up, cut off and discard existing connector and strip back a little insulation.
- B. Secure connector of new Adapter Cable Assembly to line cord connector of POWER CHASSIS ASSEMBLY.
- C. We recommend that you splice each line cord with each Adapter Cable Assembly wire using wire nuts.

NOTE: If your game has an On-Off Switch in line with existing line cord, we recommend that you use modification shown in Wiring Diagram (page 1 of 2). Splice each prepared On-Off Switch wire with each Adapter Cable Assembly wire using wire nuts.

7. Installation of four (4) new Ground Straps which are supplied in your kit (refer to Figure 2, Figure 3, and POWER CHASSIS ASSEMBLY Illustration):

- A. Secure 48" Ground Strap, 36" Ground Strap, and 18" Ground Strap to POWER CHASSIS ASSEMBLY with hex nut as shown in its' illustration.
- B. Connect 18" Ground Strap to new CARDRACK WITH CPU BOARD ASSEMBLY.
- C. Connect 36" Ground Strap to existing monitor.
- D. Connect 48" Ground Strap, along with additional new 18" Ground Strap, to existing Coin Door's ground.
- E. Connect other end of 18" Ground Strap to modified Control Panel.

NOTE: DO NOT GROUND THE NEW "POWER SUPPLY, AUDIO BOARD & MOUNTING PLATE ASSEMBLY.

8. To Install new Header Attract Art:

- A. Center old Header Attract Art on new **over-sized** Header Attract Art.
- B. Draw a line around outside edges of old Header Attract Art.
- C. Cut out properly sized new Header Attract Art (trim, if necessary, for accurate fit).
- D. Discard old Header Attract Art.
- E. Install new Header Attract Art in game cabinet.

9. To install new Monitor Bezel:

- A. Center old Monitor Bezel over new **over-sized** Monitor Bezel.
- B. Draw a line around outside edges of old Monitor Bezel.
- C. Cut out properly sized new Monitor Bezel (trim, if necessary, for accurate fit).
- D. Discard old Monitor Bezel.
- E. Place new Monitor Bezel over existing Monitor and set existing Viewing Glass in place.

10. Referring to "Decal Installation Instructions" on page 13, prepare your cabinet's sides and apply new Side Decals. Place them horizontally at sufficient height.

11. Close and latch Control Panel.

12. Close and lock Coin Door.
13. Check option switch settings (referring to pages 3 and 4).
14. Before powering up game cabinet, leave rear access door off. If your game has an interlock switch, pull it out to its' fully extended position.
15. Power up game and check Game Operation on Monitor screen and also check Controls.
16. Color Monitor Screen Adjustments (if necessary):
 - A. Center the picture,
 - B. Adjust vertical size (height),
 - C. Adjust horizontal size (width).

Make sure the words "SCORE" (located in upper left corner of screen) and "DIRECTION" (located in upper right corner of screen) do not get "cut off" of Monitor screen.
17. Close and lock rear access door (after returning interlock switch, if your game cabinet has one, to its normal position).

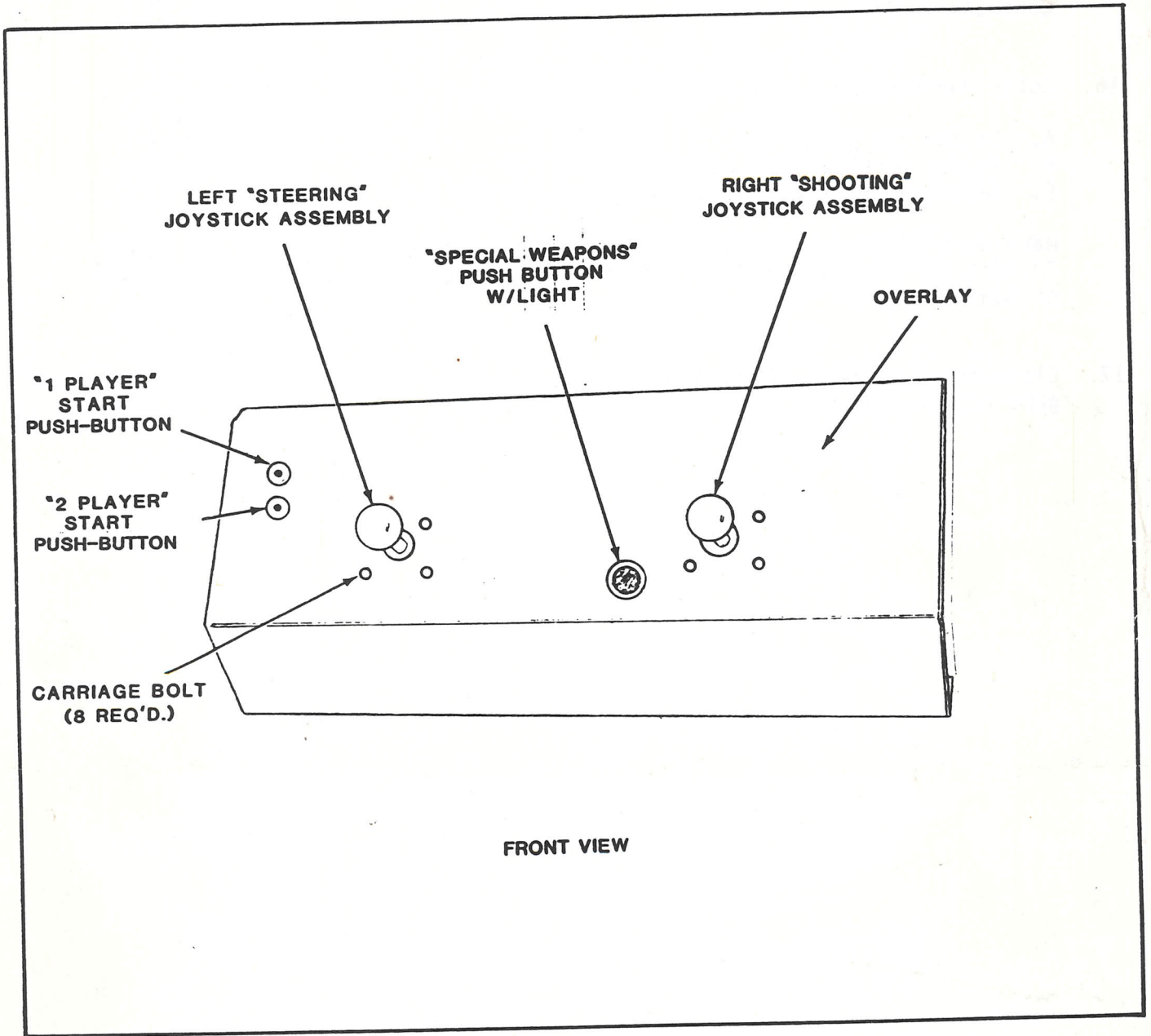


FIGURE 1. SUGGESTED MOUNTING OF NEW CONTROLS ON EXISTING CONTROL PANEL