



OPERATOR'S MANUAL



V 3.0



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SAFETY PRECAUTIONS

The following safety precautions and advisories are used throughout this manual and are defined as follows.

*** WARNING! ***

*Disregarding this text could result in **serious injury**.*

*** CAUTION! ***

Disregarding this text could result in damage to the machine.

*** NOTE! ***

- An advisory text to hint or help understanding.



BE SURE TO READ THE FOLLOWING



*** WARNING! ***

Always turn **OFF** Mains AC power and unplugged the game, before opening or replacing any parts.

Always when unplugging the game from an electrical outlet, grasp the plug, not the line cord.

Always connect the Game Cabinet to grounded electrical outlet with a securely connected ground line.

Do Not install the Game Cabinet outdoors or in areas of high humidity, direct water contact, dust, high heat or extreme cold.

Do Not install the Game Cabinet in areas that would present an obstacle in case of an emergency, ie. near fire equipment or emergency exits.

*** CAUTION! ***

Always use a Digital Multimeter, logic tester or oscilloscope for testing integrated circuit (IC) logic PC boards. The use of a continuity tester is not permitted.

Do Not Connect or disconnect any of the integrated circuit (IC) logic PC boards while the power is **ON**.

Do Not use any fuse that does not meet the specified rating.

Do Not Subject the game cabinet to extreme temperature variations. Reliability of electrical components deteriorates rapidly over 60 °C.



INTRODUCTION

CONGRATULATIONS! You have just bought the **“Fire Fighter”**, another sensational product from **LAI GAMES**. This game, based around the popular kids water game style, has many new features. **“Fire Fighter”** features two player or single player game play, an impressive main display, backlit targets, and robust and reliable water Cannon guns. With its simple payout style, suited to children, we feel that **“Fire Fighter”** will make a great game at any location, on or off site.

We hope you take the time to read this manual and learn about the many other features and user-friendly adjustments that can be made to “fine-tune” the game for maximum earning potential.

DESCRIPTION

The **“Fire Fighter”** is a one or two player, ticket redemption game, where players attempt to beat their opponent (the second player in two player mode, a virtual opponent if one player game) by putting out all the fires on the building levels. The game also keeps an on-going score such that the first player to reach 99 points wins the game.

PACKAGING

- At delivery, the machine should arrive in good condition. To move the packaged machine for transport or placement, use a forklift and take care not to hit the package or stack heavy objects on top, as this may cause damage to the machine.

CONTENTS

- The “Fire Fighter” lower cabinet
- The “Fire Fighter” upper cabinet
- Keys: 2 × coin door keys
 2 × ticket door keys
 2 × back doors keys
 2 × ticket door keys
- Operator’s manual
- IEC Power Cord (In cash box)
- Parts & Accessories (In lower cabinet)



SPECIFICATIONS

DIMENSIONS

- Weight: 240 kg (530lb) [Empty of water]
- Height: 2055mm (81")
- Width: 1080mm (42")
- Length: 1620mm (63-1/2")
- Power: Maximum 660 W – (220V @ 3.0 A)(120V @ 5.5 A)
Average 380 W – (220V @ 1.8 A)(120V @ 3.2 A)

ELECTRIC SUPPLY

- The game has the option to operate on a 110V, 120V, 220V or 240V AC 50/60Hz single phase mains electric supply.

The supply must be a three wire grounded supply.

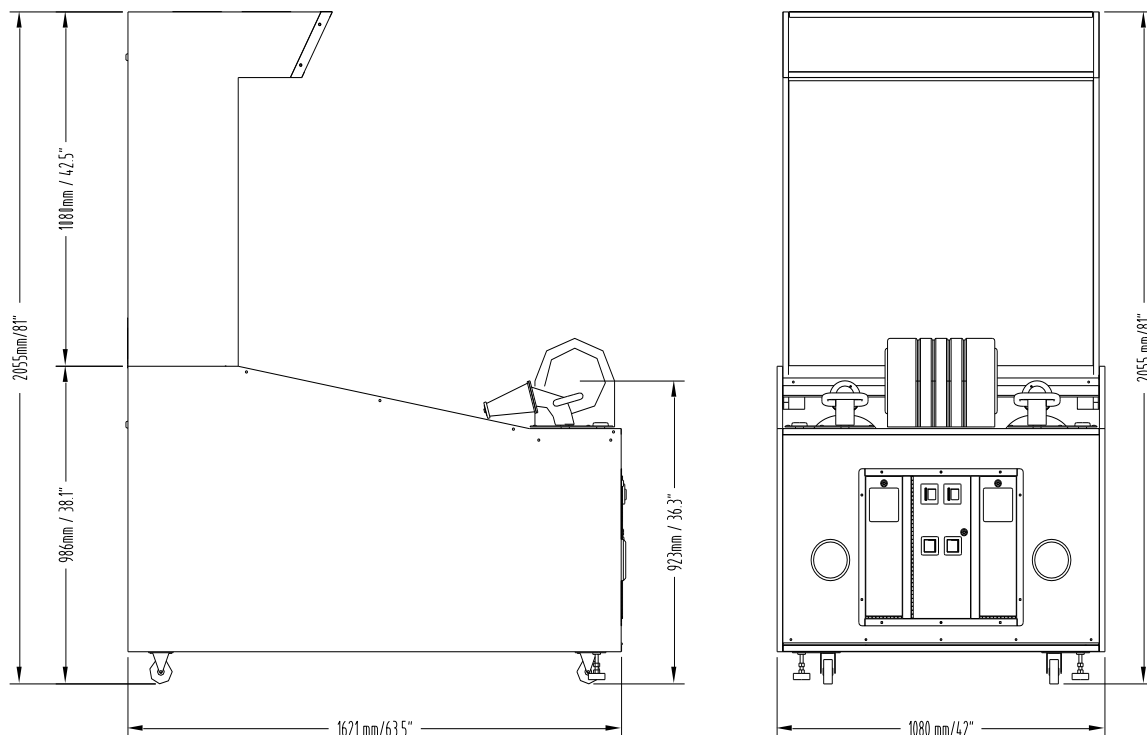
* CAUTION! *

Before switching the machine on be sure to check that it has been set on the correct voltage for your area!

Please Refer to the mains voltage adjustment section of this manual. Machines are normally shipped on 220V AC unless otherwise specified.

LOCATION REQUIREMENTS

- Ambient temperature: between 5°C and 40°C.
- Ambient humidity: Low
- Ambient U.V. radiation: Very low
- Vibrations level: Low





MACHINE INSTALLATION and INSPECTION

When installing and inspecting “**Fire Fighter**”, be very careful of the following points and pay attention to ensure that the players can enjoy the game safely.

- Be sure to turn the power **OFF** before working on the machine.

*** WARNING! ***

***Always** Turn **OFF** mains power before removing safety covers and refit all safety covers when work is completed.*

- Make sure the power cord is not exposed on the surface (floor, ground, etc.) where people walk through.
- Check that the rubber glide feet levelers are set evenly on the floor so that the game cabinet is unable to roll and is stable.
- Always make complete connections for the integrated circuit (IC) logic PC Boards and other connectors. Insufficient insertion can damage the electrical components.

*** CAUTION! ***

***Before** switching the machine on be sure to check that it has been set on the correct voltage for your area!*

***Refer** to the mains voltage adjustment section of this manual. Machines are normally shipped on 220V AC unless otherwise specified.*

- Only qualified personnel should inspect or test the integrated circuit (IC) logic PC Boards.
- If any integrated circuit (IC) logic PC Boards should need servicing. Please contact the nearest **LAI GAMES** distributor. (Refer to the back page of this manual)

*** CAUTION! ***

*Water needs to be added to the game **BEFORE** running the pumps.
Prolonged dry running of the pumps can shorten their life.
See page 6 on how to fill and setup the water system.*



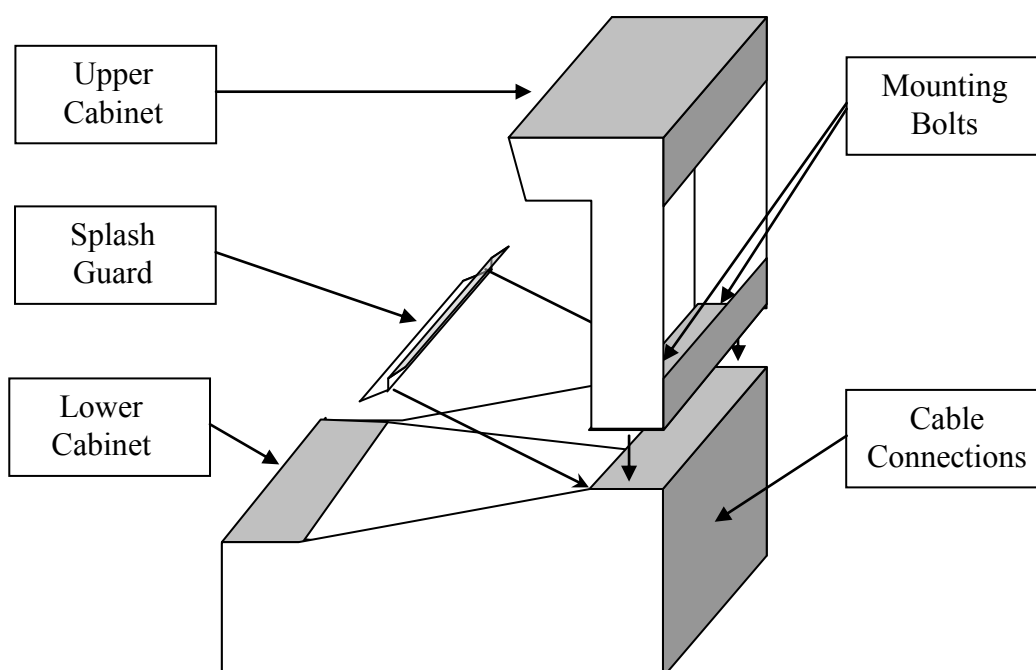
ASSEMBLY INSTRUCTIONS

The “**Fire Fighter**” is shipped in two main sections, the **Upper Cabinet**, containing most of the controlling electronics and the **Lower Cabinet**, containing the water system and player controls. The game should not be shipped fully assembled as this could cause damage to the **Both Cabinets**.

- Position the **Lower Cabinet** nearby to its final location. The cabinet has four heavy duty castors to allow easy repositioning of the game. Remove the **four M12 x 80mm Bolts** from the back mounting section and make sure it's clear of any wires or obstructions.
- Position the **Upper Cabinet** on the floor near the back of the **Lower Cabinet** with the header facing the front. Unwrap and remove the back door of the **Upper Cabinet**, this will give better grip when lifting the **Upper Cabinet** into place. Using at least two persons, one at each side, lift the **Upper Cabinet** into position on the **Lower Cabinet**. Using the **four M12 x 80mm Bolts**, mount the **Upper Cabinet** tight to the **Lower Cabinet**.
- Feed the Cables from the **Upper Cabinet** through the hole down into the **Lower Cabinet**. Mate all the connectors together; they are keyed to prevent incorrect connection. Remove the four Philip head screws from the red metal bracket just above the Hydrant Targets. Position the Acrylic Splash Guard with the rubber edging pressing up against the Display Glass and fit and tighten screws, don't over tighten or it may crack the acrylic.

* CAUTION! *

*Water needs to be added to the game **BEFORE** running the pumps.
Prolonged dry running of the pumps can shorten their life.
See page 6 on how to fill and setup the water system.*





WATER SYSTEM

The “**Fire Fighter**” is a water style game and requires regular maintenance and cleaning to keep the water in good condition. The game needs 20 liters (5 Gallons) of water to operate effectively. The machine should be emptied of any water before moving or shipping to prevent spillage. The two 12Volt DC Pumps are able to run dry for short durations without damage should the game accidentally be run without water. A Stainless Steel grill between the water catchment and the water tank prevents large objects from blocking the plumbing. A water filter protects the two pumps from fine particle damage. Refer the *Water System Diagrams on page 7* for locating water system components and valves.

*** NOTE! ***

- The addition of a small amount of pool chlorine to the water is recommended to kill any algae or other organisms introduced during filling.

■ FILLING MACHINE

Check that the Drain Stop Valve is in the closed position. Use a bucket or metered container to fill the tank with 20 liters (5 Gallons) of clean tap water. Open the Main Stop Valve at the back of the machine and then press the small red filter bleed button on the top of the Water Filter to fill the filter with water.

■ PRIMING PUMPS & ADJUST PRESSURE

Check that both the Yellow Player and Blue Player Stop Valves are open. Use the Run Test Mode on page 13 to activate both Water Pumps. Let the water run for a while to remove all air from the plumbing. Then with the Yellow Player / Blue Player Stop Valves, as shown in the *Water System Diagrams*. Slowly close off each valve to reduce the Canon water pressure so that the targets can be moved and activate the target lights but the water stream is not splashing excessively.

■ CLEANING OPERATIONS

The “**Fire Fighter**” is fitted with a Wash-Down Gun to help in cleaning the water catchment area. To activate the Wash-Down Gun, Use the *Run Test Mode on page 13* to activate Pump 2 only. Then open the Wash-Down Gun Stop Valve, use the trigger on the Gun and direct the water where needed. Be careful not to splash water outside the fiberglass catchment area. You can close the Blue Player Stop Valve if need be, but you will have to adjust the Canon water pressure again when finished.

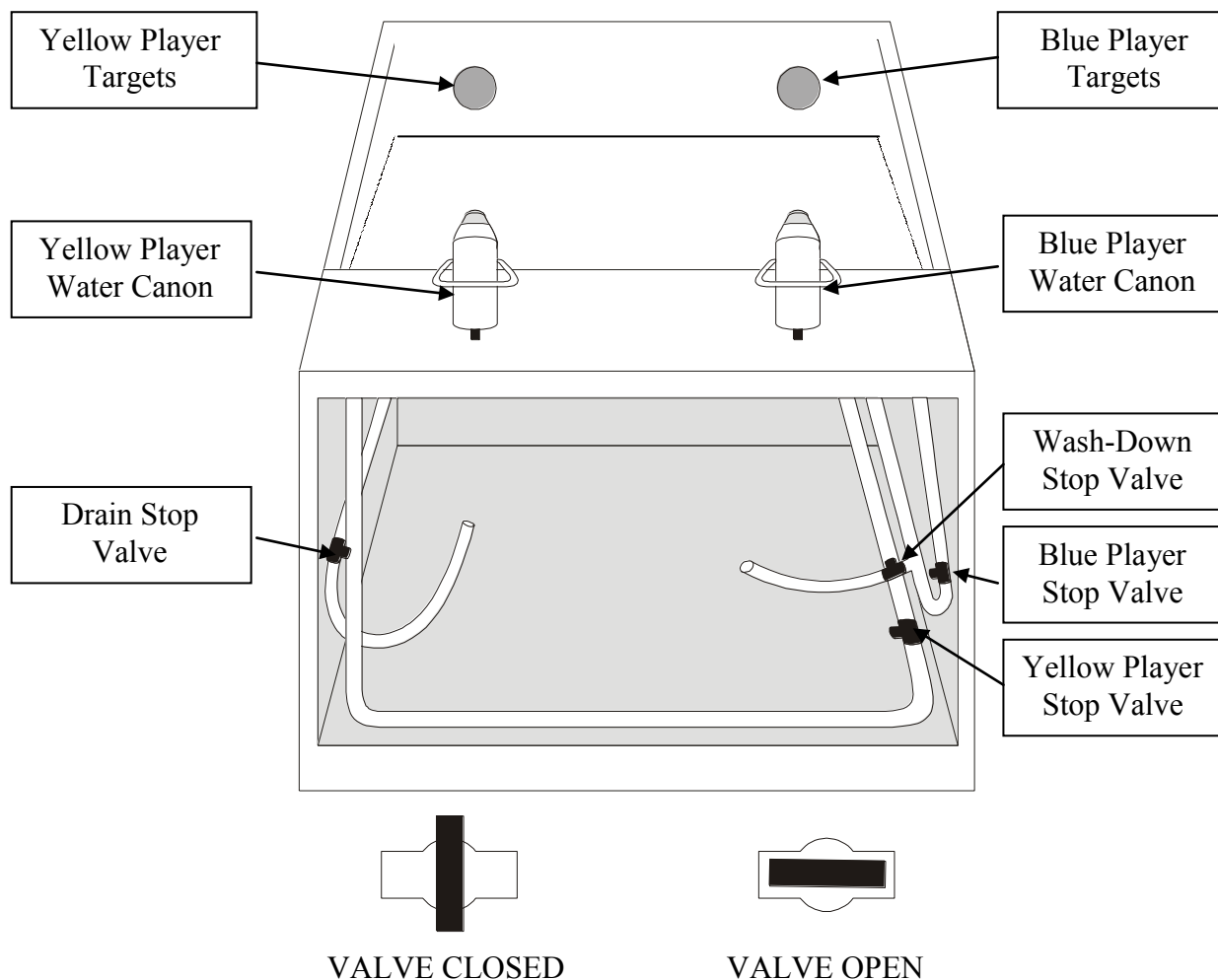
■ EMPTYING MACHINE

Close the Main Stop Valve and then place the Drain Pipe at the front of the machine in a bucket or suitable container. The containers height must be no higher than 400mm (15”) to allow the tank to gravity drain. Use the Drain Stop Valve to prevent overfilling of the container. Repeat until all water is drained from the machine.

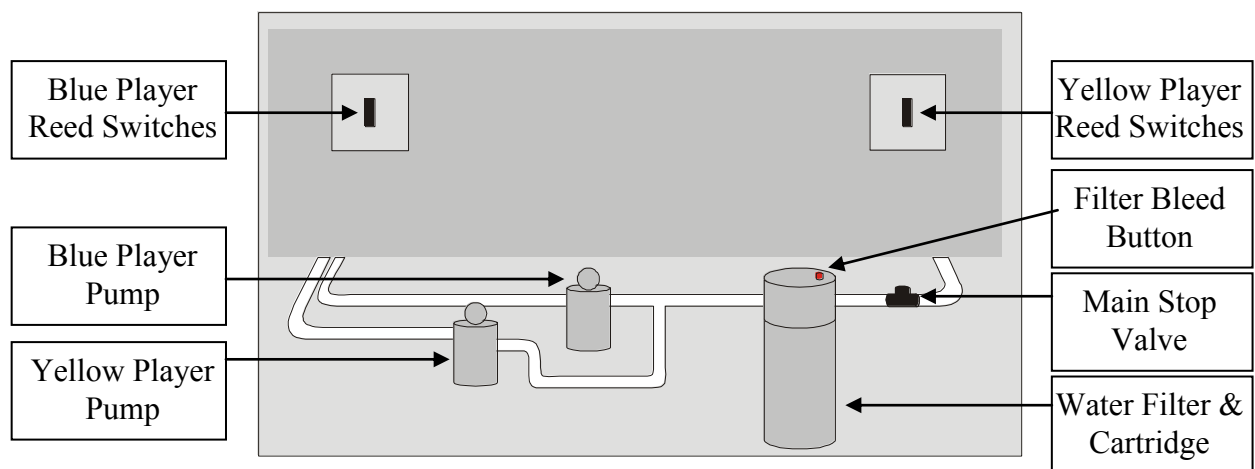


WATER SYSTEM DIAGRAM

As viewed from front



As viewed from rear





HOW TO PLAY

THE PLAYER'S AIM IS TO REACH THE 99 POINTS FIRST BY AIMING THE WATER STREAM AT THE LIT TARGETS INSIDE THE PLAYERS FIRE HYDRANT

- Insert coin/s.
- For single player game, the player chooses to press either the yellow or blue player start button only. For a multi (two) player game both players must press both the blue & yellow player start buttons together.
- There is a brief build up period where the buildings are lit on fire. Then the players fire hose(s) will start shooting water. Aim the stream of water at the flashing targets inside the fire hydrant on your half of the playfield.
- The fire in the building will start to reduce downwards while your score will start rising as you hold your water stream on your targets.
- Once all the fires in the either building are put out (or the score reaches 99 points, as these **always** occur simultaneously) the game is then over. The side that has put out all the levels (Or reached 99 points) is the winner.

*** NOTE! ***

- If the time out is reached then the side with the highest score is the winner..

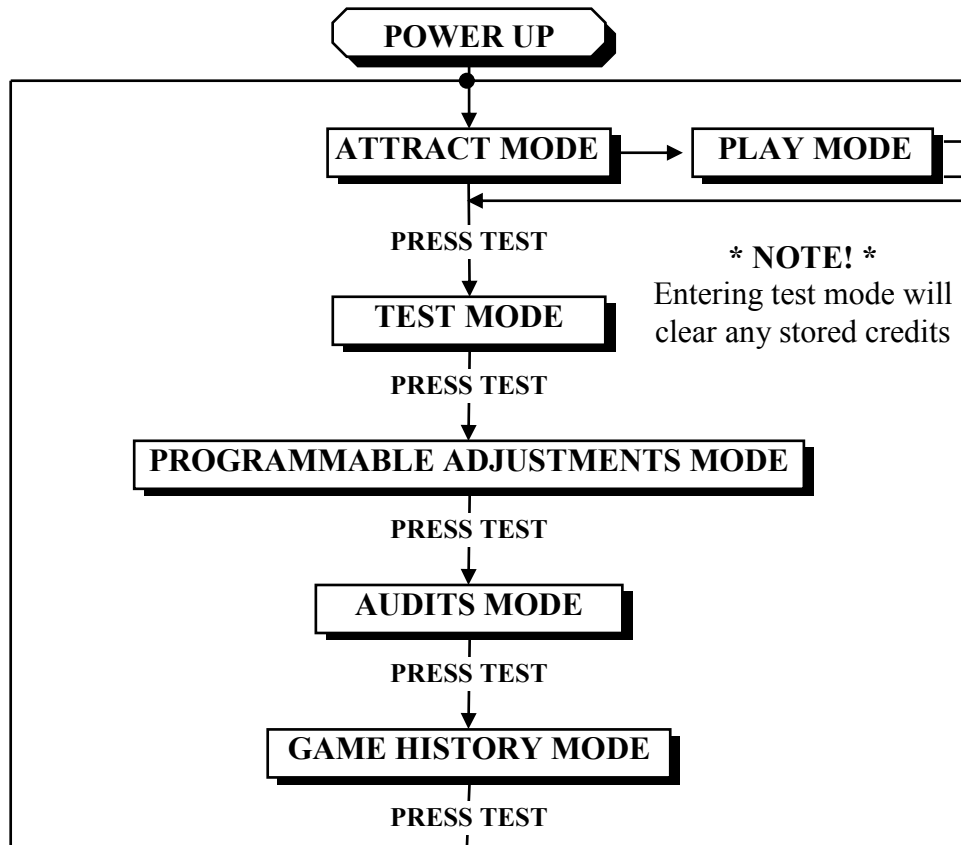
- Tickets are then dispensed.



OPERATION

The “**Fire Fighter**” game has six operational modes: Attract mode, Play mode, Test Mode, Programmable Adjustments Mode, Audits Mode and Game History Mode.

OPERATIONAL DIAGRAM



ATTRACT MODE

- The Attract mode provides a light and sound display, while the game is not being played. This feature is to attract potential customers to play the game. The attract mode sound can be turned on and off
(Refer to programmable adjustment P07, see page 14 of this manual).

PLAY MODE

- The **Fire Fighter** has two play modes. The *Standard Coin Play* mode, where a coin, or coins are inserted. Or *Free Play* where no coins are necessary.

COIN PLAY

- The *Coin Play* mode is entered from Attract mode, by inserting coins in any of the two coin slots on the front of the machine cabinet, then following the instructions in the “How to Play” section of this manual.

FREE PLAY

- The free play mode is entered from attract mode by holding the Service button for longer than five second, **F F F E** will be displayed on the 3-digit LED display.
- To get back to normal game Play mode Switch Off and On the Machine.



TEST MODE

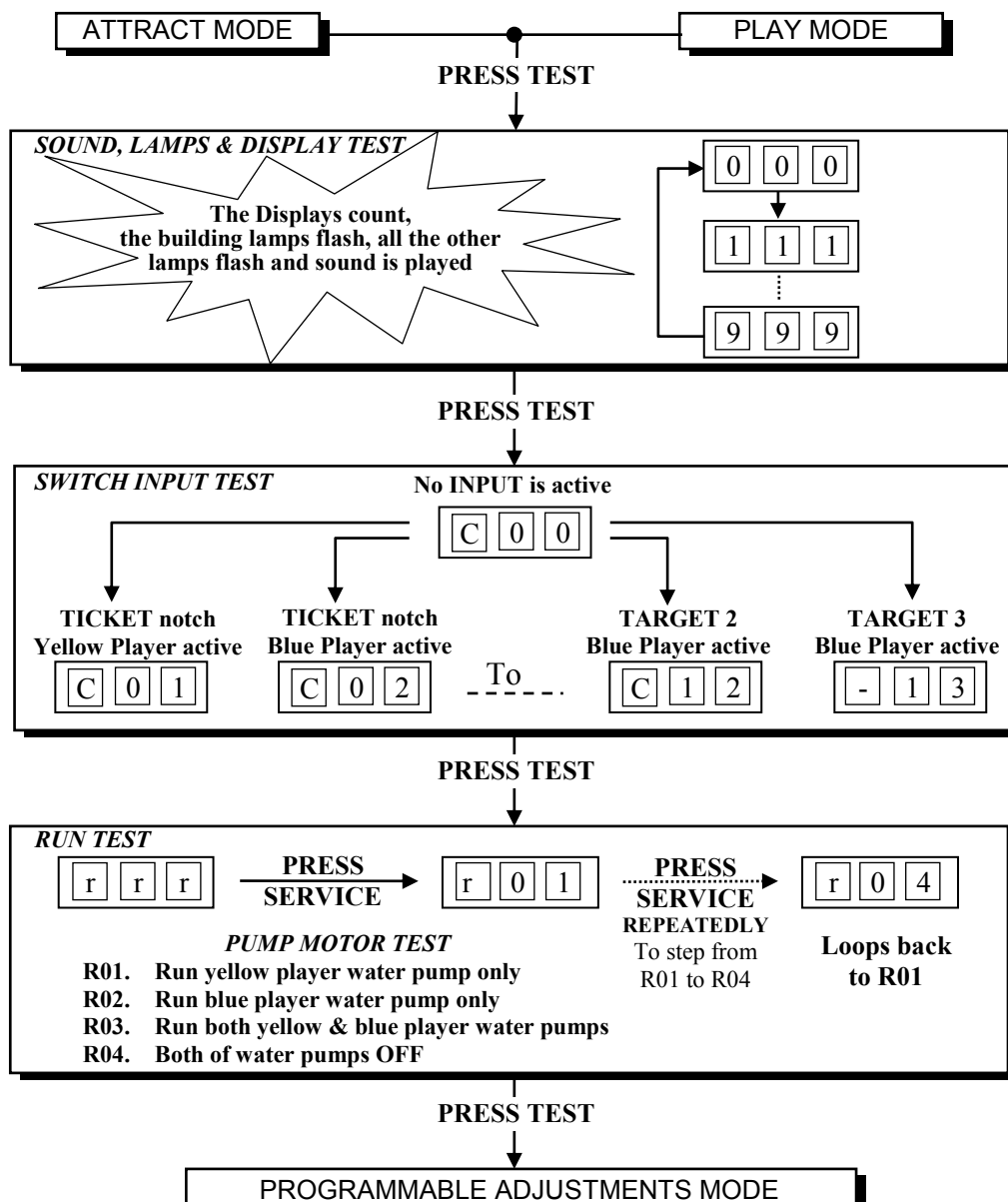
The **Fire Fighter** Test mode has *Three Test Configurations* allowing you to test the function of the Sound, all Game Lamps, Displays, the Game Switches, Pump Motors and the Water Cannon action. (Refer to the Test Mode Diagram below).

The Test mode is also used for Clearing Game Errors. If there is an active error, its code will be displayed. To try to clear the error code, press the red test button once. The error can be bypass by quickly pressing the red test button twice. (For Game Errors codes, refer to page 26).

* NOTE! *

- Entering Test Mode will CLEAR any CREDITS remaining in the game.
- If during test mode no ADJUSTMENTS or actions are made to the game for approximately four minutes, it will automatically RETURN to Attract Mode.

TEST MODE DIAGRAM





SOUND, LAMPS & DISPLAY TEST

- **ENTER** The Sound, Lamp & Display test is entered from Attract mode by pressing the test button once.

*** NOTE! ***

- If there is an active error displayed, press the red test button once to try and clear the error. If the error code will not clear, it can be bypass by quickly pressing the red test button twice.

DURING THE TEST:

- Game music and a voice over will be played.
 - The backlighting of the buildings will light up level by level.
 - All the displays will count from 000 to 999 and then repeat.
 - The Yellow Player and Blue Player button lamps will flash on and off.
 - The target back lights will light up.
- **EXIT** The Sound, Lamp & Display test is exited by pressing the test button. The next test will be switch test.

SWITCH TEST

- **ENTER** The Switch Test can be entered by pressing the Test button once while in the Sound, Light & display test or by pressing the Test button twice while in Attract mode, **C|X|X** will be displayed on the 3-digit display where „XX“ is a number representing the switch that is active.

■ TESTING THE GAME SWITCHES

All game switches have a code from C1 to C13 as tabled below. By activating any of the switches, their code will be displayed on the 3-digit display. If no switches are active then **C|0|0** will be displayed.

CODE	DISPLAY	SWITCH FUNCTION	SWITCH LOCATION
C0	C 0 0	No Switch Active	-
C1	C 0 1	Ticket Notch Yellow Player Active	Left Hand Ticket Door
C2	C 0 2	Ticket Notch Blue Player Active	Right Hand Ticket Door
C3	C 0 3	Service Switch Active	Service Panel
C4	C 0 4	Yellow Player Start Button Active	Control Panel
C5	C 0 5	Blue Player Start Button Active	Control Panel
C6	C 0 6	Coin 1 Switch Active	Coin Door
C7	C 0 7	Coin 2 Switch Active	Coin Door
C8	C 0 8	Target 1 Yellow Player Active	Cabinet Back
C9	C 0 9	Target 2 Yellow Player Active	Cabinet Back
C10	C 1 0	Target 3 Yellow Player Active	Cabinet Back
C11	C 1 1	Target 1 Blue Player Active	Cabinet Back
C12	C 1 2	Target 2 Blue Player Active	Cabinet Back
C13	C 1 3	Target 3 Blue Player Active	Cabinet Back

Normal condition for the game is **C|0|1** and **C|0|2** indicating that the ticket mechanism sensors are active

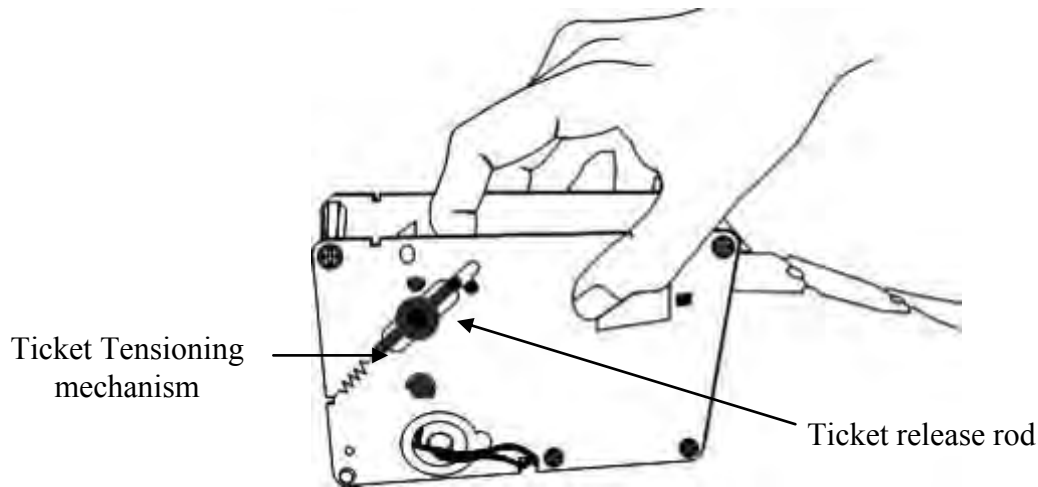
*** NOTE! ***

- Several switches can be simultaneously activated in Switch test. The display will then consecutively show their codes, indicating which switches are active. However, it is much easier to test the game switches individually.



■ TICKET DISPENSER NOTCH

The Ticket Notch Switch (C1 & C2) can be activated or deactivated from the Ticket Feed Button on the Ticket Dispenser PCB or by manually pushing the tickets from the ticket holder through the dispenser after pulling the ticket release rod upwards



* NOTE! *

- For more information on the servicing and testing the ticket dispenser please look at the Dispenser Reference guide.

- **EXIT** The Switch Test is exited into Run Test Mode by pressing the Test Button once.



RUN TEST

- **ENTER** The Run Test mode is entered from switch test by pressing the Test button once or from Attract mode by pressing the Test button three times. This will prompt the code **r r r** on the 3-digit display indicating the program mode.
- **SELECT** The Service button is pressed to step through each of the run test modes, starting from the **r 0 1** display, R01 being the first step, continuing through to R04, and then looping again from R01 to R04 until the mode is exited

CODE	DISPLAY	RUN TEST FUNCTION
R01	r 0 1	Run Yellow Player Water Pump
R02	r 0 2	Run Blue Player Water Pump
R03	r 0 3	Run Yellow & Blue Player Water Pumps
R04	r 0 4	Both Water Pumps inactive

- **EXIT** The Run Test is exited into Programmable Adjustments Mode by pressing the Test Button once.

*** NOTE! ***

- If any of the games target sensors become active, then the corresponding target's backlight will activate.

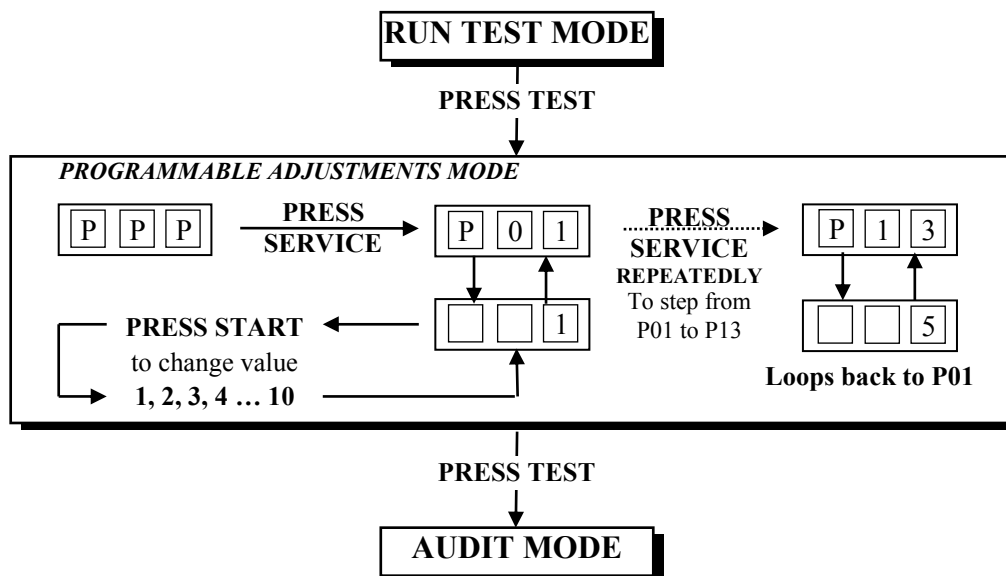


PROGRAMMABLE ADJUSTMENTS MODE

The **Fire Fighter** has thirteen programmable adjustments that can be changed in this mode. They are P01 to P13 and their codes and values are displayed alternatively during the adjustment procedure.

Example: Code **P01** (*Number of Coins Mech 1*) is displayed as **P01** and its value of 1 as **1** on the 3-digit display.

PROGRAMMABLE ADJUSTMENTS MODE DIAGRAM



PROGRAMMABLE ADJUSTMENTS PROCEDURE

- **ENTER** The Programmable Adjustments Mode can be entered by pressing the Test button once while in the Run Test or by pressing the Test button four times while in Attract mode, **P P P** will be displayed on the 3-digit credit display.
- **SELECT** The green Service button is pressed to step through each of the adjustment configurations, starting from the **P P P** display, P01 being the first step, continuing through to P13, and then looping again from P01 to P13 until the mode is exited.
- **CHANGE** The Yellow Player Start button is pressed to change the displayed value. The value can only be stepped up by using the Start button, but the value will loop back to its minimum value the next step after its max value.

* NOTE! *

- Certain program adjustments have a fast adjustment feature. By holding the Start button down, the values step through quicker.

- **EXIT** The Programmable Adjustments mode is exited into Audits mode, by pressing the Test button once.



PROGRAMMABLE ADJUSTMENTS QUICK REFERENCE TABLE (V 3.0)

CODE	PROGRAMMABLE ADJUSTMENTS	OPTIONAL VALUES	DEFAULT SETTINGS	FEATURES
P01	1 – 10	1, 2, 3...10	1	Coin Slot 1 – Coins / Credit
P02	1 – 10	1, 2, 3...10	1	Coin Slot 1 – Games / Credit
P03	1 – 10	1, 2,3 ...10	1	Coin Slot 2 – Coins / Credit
P04	1 – 10	1, 2,3 ...10	1	Coin Slot 2 – Games / Credit
P05	30 – 300	30,40,50...300	80	Maximum Game Time
P06	0n – Off	0n, Off	On	Attract Sound On/Off
P07	0– 100	0, 1, 2, 3...100	12	Number of Tickets Single Player Game Winner
P08	0– 100	0, 1, 2, 3...100	6	Number of Tickets Single Player Game Loser
P09	0– 100	0, 1, 2, 3...100	18	Number of Tickets Multi Player Game Winner
P10	0 – 100	0, 1, 2, 3...100	10	Number of Tickets Multi Player Game Loser
P11	1 –10	1, 1.5,2.5 ...10	2.5	Seconds per Building Level
P12	1 – 20	1, 2, 3, ... 20	10	Computer Player Skill Level
P13	1 – 10	1, 2, 3, ... 10	5	Target Hardness Level

Note: All default settings are for an average of 11 tickets per game.



PROGRAMMABLE ADJUSTMENTS DETAILED

■ P01=COIN MECH 1: NUMBER OF COINS PER CREDIT

(Default 01) (Adjustable 1 – 10)

This variable sets the *number of coins* that need to be inserted into coin mechanism 1, for each credit. It can be set to either of 1, 2, 3... to 10 coins for one credit.

■ P02=COIN MECH 1: NUMBER of PLAYS PER CREDIT

(Default 01) (Adjustable 1 – 10)

This sets the *number of games* for each credit inserted into coin mechanism 1. It can be set to either of 1, 2, 3... to 10 plays for each credit.

■ P03=COIN MECH 2: NUMBER OF COINS PER CREDIT

(Default 01) (Adjustable 1 – 10)

This variable sets the *number of coins* that need to be inserted into coin mechanism 2 for each credit. It can be set to either of 1, 2, 3... to 10 coins for one credit.

■ P04=COIN MECH 2: NUMBER of PLAYS PER CREDIT

(Default 01) (Adjustable 1 – 10)

This sets the *number of games* for each credit inserted into coin mechanism 2. It can be set to either of 1, 2, 3... to 10 plays for each credit.

■ P05 = MAXIMUM GAME TIME

(Default 80) (Adjustable 30s-300s)

This option adjusts the *number of seconds* before the game will time out and shut itself down. This is intended purely as a safety measure, in case of a blocked pump causing the game to run continuously (as the sensor would not be activated) or a player who starts a game then walks away.

■ P06 = ATTRACT MODE SOUND

(Default ON) (Adjustable ON or OFF)

This adjustment turns the *attract mode sound* **ON** or **OFF**. This is the sound and music that the game generates to attract customers when it is not being played. The music will cycle approximately every 3 minutes.

■ P07= NUMBER OF TICKETS SINGLE PLAYER GAME WINNER

(Default 12) (Adjustable from 0 to 100)

This setting is the *number of tickets* the game dispenses when a player who has played a single player game wins the game by putting out all the fires (reaching 99 points) before the computer controlled player does.



■ **P08= NUMBER OF TICKETS SINGLE PLAYER GAME LOSER**
(Default 6) (Adjustable from 0 to 100)

This setting is the *number of tickets* the game dispenses when a player who has played a single player game loses the game because the computer controlled player by puts out all the fires (reaching 99 points) before the player does.

■ **P09= NUMBER OF TICKETS MULTI PLAYER GAME WINNER**
(Default 18) (Adjustable from 0 to 100)

This setting is the *number of tickets* the game dispenses when a player who has played a multi player game wins the game by putting out all the fires (reaching 99 points) before the other player does.

■ **P10= NUMBER OF TICKETS MULTI PLAYER GAME LOSER**
(Default 10) (Adjustable from 0 to 100)

This setting is the *number of tickets* the game dispenses when the player who has played a multi player game loses the game because the other player by puts out all the fires (reaching 99 points) before the player does.

■ **P11 = SECONDS PER BUILDING LEVEL**
(Default 2.5) (Adjustable from 1 to 10)

This setting is the *number of seconds* the target sensors must be active for the fire in the building to drop by 1 level. There are 7 building levels in each game.

■ **P12 = COMPUTER PLAYER SKILL LEVEL**
(Default 10) (Adjustable 1 to 20)

This adjustment controls the *skill level* of the computer player in the single player game. In the single player game, the player plays against a virtual opponent, controlled by the micro-controller. Altering this option higher make the computer player a better player, decreasing the chances of a player winning the single player game. Conversely, altering this option lower will make the computer player worse, increasing the changes of a player playing the single player game wining.

■ **P13 = TARGET HARDNESS LEVEL**
(Default 5) (Adjustable from 1 to 10)

This setting controls the *Target Hardness Level* by changing the active position between each of the three targets in the hydrant. Increasing this setting increases the number of times that active target is changed. Decreasing the setting slows down the change in active targets.



AUDITS MODE

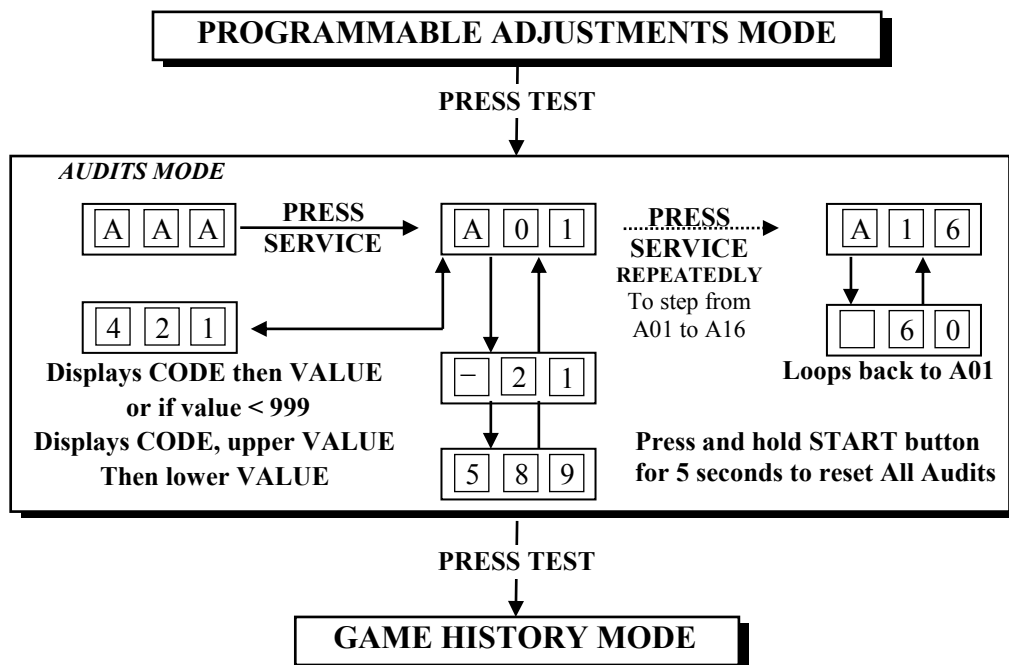
The Audits Mode allows the operator to view statistics in all areas of the Game Play. This enables the operator to make calculated adjustments and “Fine Tune” the machine to maximize earning potential. The Audits mode stores bookkeeping of the games processed since the last game audits reset. While in this mode, the game audits can also be reset to zero.

The **Fire Fighter** has sixteen Audits that can be viewed in this mode. They are A01 to A16 and their codes and values are displayed alternatively during the Audit Mode.

Example: Code **A01** will be displayed as **A01** and a value of **421** as **421** on the 3-digit display.

Or it will display large values like **21589** as **-21** and **589** on the 3-digit display.

AUDITS MODE DIAGRAM



* NOTE! *

- For Audit values that are greater than 999 the audits' values will be displayed in two steps.
- The first number, which is displayed as **-21**, has leading dash symbols (-). The number displayed here must be multiplied by 1,000 and added to the second value.
- The second value is displayed as **589**, which has no dash symbols.
- In this example the final value is 21,589



AUDIT PROCEDURE

- **ENTER** The Audits mode is entered from Programmable Adjustments mode by pressing the Test button once or from Attract mode by pressing the Test button five times. **A A A** will be displayed on the 3-digit display.
- **SELECT** The green Service button is pressed for advancing each step through the set of audits configurations, starting from the **A A A** display, A01 being the first step, continuing through to A16, and then looping again from A01 to A16 until the mode is exited.
- **RESET** The entire set of user audits can be reset during any of the audit configurations, by holding the Yellow Start button for longer than 5 seconds. The displays will be cleared while still holding the button pressed and will return to the same audit step after releasing the button. The value of all audits will be reset to “00 000”.
- **EXIT** The Audits mode is exited into Game History mode, by pressing the Test button once.

*** NOTE! ***

- **ALL** Audits will **STOP INCREMENTING** when the “Total Number of Games Played”, audit A-01, reaches 60,000.
- To restart the audits they must be reset to 00 000 by holding The Start button for longer than 5 seconds while in audits mode.



AUDITS QUICK REFERENCE TABLE

CODE	DISPLAY	AUDIT FUNCTION
A01	A01	Total Number of Games Played
A02	A02	Total Number of Single Player Games
A03	A03	Total Number of Multi Player Games
A04	A04	Total Number of Yellow Player Games
A05	A05	Total Number of Blue Player Games
A06	A06	Total No. of times a Single Player on Yellow Won
A07	A07	Total No. of times a Single Player on Yellow Lost
A08	A08	Total No. of times a Single Player on Blue Won
A09	A09	Total No. of times a Single Player on Blue Lost
A10	A10	Total No. of times Multi Players on Yellow Won
A11	A11	Total No. of times Multi Players on Yellow Lost
A12	A12	Total No. of times Multi Players on Blue Won
A13	A13	Total No. of times Multi Players on Blue Lost
A14	A14	Total Coins In Mechanism 1
A15	A15	Total Coins In Mechanism 2
A16	A16	Total Number of Service Credits



AUDITS DETAILED

■ A01 = TOTAL NUMBER OF GAMES PLAYED

This Audit displays the *total number of games played* on this machine since the audits were last cleared (including service games).

■ A02 = TOTAL NUMBER OF SINGLE PLAYER GAMES

This Audit displays the *Total Number of Single Player Games* started since the audits were last cleared. Single Player mode is selected by pressing **Only** the Yellow **or** Blue Start buttons on the control panel at the start of a game.

■ A03 = TOTAL NUMBER OF MULTI PLAYER GAMES

This Audit displays the *Total Number of Multi Player Games* started since the audits were last cleared. Multi Player mode is selected by pressing **Both** the Yellow **and** Blue Start buttons on the control panel at the start of a game.

■ A04 = TOTAL NUMBER OF YELLOW PLAYER GAMES

This Audit displays the *total number of yellow player games* Started since the audits were last cleared. This Audit counts every game started using the yellow start button both for single or multi player games.

■ A05 = TOTAL NUMBER OF BLUE PLAYER GAMES

This Audit displays the *total number of blue player games* Started since the audits were last cleared. This Audit counts every game started using the blue start button both for single or multi player games.

■ A06 = TOTAL NUMBER OF TIMES A SINGLE PLAYER ON YELLOW WON

This Audit displays the *total number times a player on yellow has won* in the single player mode since the audits were last cleared. Single Player mode is selected by pressing **Only** the Yellow **or** Blue Start buttons on the control panel at the start of a game.

■ A07 = TOTAL NUMBER OF TIMES A SINGLE PLAYER ON YELLOW LOST

This Audit displays the *total number times a player on yellow has lost* in the single player mode since the audits were last cleared. Single Player mode is selected by pressing **Only** the Yellow **or** Blue Start buttons on the control panel at the start of a game.

■ A08 = TOTAL NUMBER OF TIMES A SINGLE PLAYER ON BLUE WON

This Audit displays the *total number times a player on blue has won* in the single player mode since the audits were last cleared. Single Player mode is selected by pressing **Only** the Yellow **or** Blue Start buttons on the control panel at the start of a game.



■ **A09 = TOTAL NUMBER OF TIMES A SINGLE PLAYER ON BLUE LOST**

This Audit displays the *total number times a player on blue has lost* in the single player mode since the audits were last cleared. Single Player mode is selected by pressing **Only** the Yellow **or** Blue Start buttons on the control panel at the start of a game.

■ **A10 = TOTAL NUMBER OF TIMES MULTI PLAYERS ON YELLOW WON**

This Audit displays the *total number times a player on yellow has won* in the multi player mode since the audits were last cleared. Multi Player mode is selected by pressing **Both** the Yellow **and** Blue Start buttons on the control panel at the start of a game.

■ **A11 = TOTAL NUMBER OF TIMES MULTI PLAYERS ON YELLOW LOST**

This Audit displays the *total number times a player on yellow has lost* in the multi player mode since the audits were last cleared. Multi Player mode is selected by pressing **Both** the Yellow **and** Blue Start buttons on the control panel at the start of a game.

■ **A12 = TOTAL NUMBER OF TIMES MULTI PLAYERS ON BLUE WON**

This Audit displays the *total number times a player on blue has won* in the multi player mode since the audits were last cleared. Multi Player mode is selected by pressing **Both** the Yellow **and** Blue Start buttons on the control panel at the start of a game.

■ **A13 = TOTAL NUMBER OF TIMES MULTI PLAYERS ON BLUE LOST**

This Audit displays the *total number times a player on blue has lost* in the single player mode since the audits were last cleared. Multi Players mode is selected by pressing **Both** the Yellow **and** Blue Start buttons on the control panel at the start of a game.

■ **A14 = TOTAL NUMBER COINS IN MECHANISM 1**

This Audit displays the *total number of coins* inserted into coin mechanism 1 since the audits were last cleared.

■ **A15 = TOTAL NUMBER COINS IN MECHANISM 2**

This Audit displays the *total number of coins* inserted into coin mechanism 2 since the audits were last cleared.



■ **A16 = TOTAL NUMBER SERVICE CREDITS.**

This Audit displays the *total number of service credits* that were given since the audits were last cleared.

*** NOTE! ***

- LAI Games Customer Support may request from the operator the values of these Manufacturers audits, to help with any service issues.

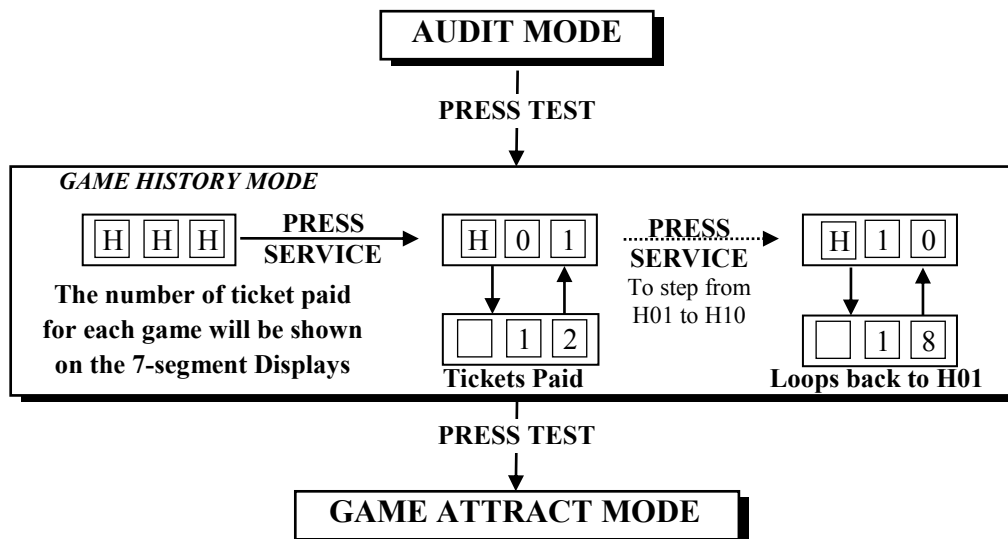


GAME HISTORY MODE

By using the Game History Mode the operator can view the results of the last 5 games played. This enables the operator to verify tickets paid for a win / lose.

Example: The history results for the last Game Played. H01 shows the number of tickets the Yellow Player received in the last game.

GAME HISTORY MODE DIAGRAM



*** NOTE! ***

- Score Histories will be erased if the game is switched off then on. Empty score histories show as on the 3-digit display

GAME HISTORY QUICK REFERENCE TABLE

CODE	DISPLAY	HISTORY RESULTS
H01	<input type="text"/> <input type="text"/> <input type="text"/>	Tickets Paid to Yellow Player Last Game Played
H02	<input type="text"/> <input type="text"/> <input type="text"/>	Tickets Paid to Blue Player Last Game Played
H03	<input type="text"/> <input type="text"/> <input type="text"/>	Tickets Paid to Yellow Player 2 nd Last Game Played
H04	<input type="text"/> <input type="text"/> <input type="text"/>	Tickets Paid to Blue Player 2 nd Last Game Played
H05	<input type="text"/> <input type="text"/> <input type="text"/>	Tickets Paid to Yellow Player 3 rd Last Game Played
H06	<input type="text"/> <input type="text"/> <input type="text"/>	Tickets Paid to Blue Player 3 rd Last Game Played
H07	<input type="text"/> <input type="text"/> <input type="text"/>	Tickets Paid to Yellow Player 4 th Last Game Played
H08	<input type="text"/> <input type="text"/> <input type="text"/>	Tickets Paid to Blue Player 4 th Last Game Played
H09	<input type="text"/> <input type="text"/> <input type="text"/>	Tickets Paid to Yellow Player 5 th Last Game Played
H10	<input type="text"/> <input type="text"/> <input type="text"/>	Tickets Paid to Blue Player 5 th Last Game Played



GAME HISTORY PROCEDURE

- **ENTER** The Game History mode is entered from Audits mode by pressing the Test button once or from Attract mode by pressing the Test button six times. **H H H** will be displayed on the 3-digit display.
- **SELECT** The green Service button is pressed for advancing each step through the set of Game Histories, starting from the **H H H** display, H01 being the first step, continuing through to H10, and then looping again from H01 to H10 until the mode is exited.
- **EXIT** The Game History mode is exited into Game Attract mode, by pressing the Test button once.



ERRORS AND TROUBLESHOOTING

If the Game microprocessor detects any problems with the operation of the game, an Error will be displayed on the 3-digit display and the machine will play a voice message. "Please Call the Attendant". Some error Messages will only be displayed when test mode is entered. Errors are displayed on the Timer display as **E r r X** and the error number in either the Yellow or Blue player score display as **□X**. where „X“ is the error number, listed as follows:

CODE	ERROR DESCRIPTION	SOLUTION
Err1	TICKET DISPENSE ERROR Jammed tickets, no tickets or no ticket notch pulse for longer than 3 seconds.	Check if the ticket dispenser is jam or empty of tickets. After clearing dispenser jam or replenish tickets, push Test button once to clear error.
Err3	EEPROM ERROR Problem with on-board EEPROM	The main MCU is getting errors reading the EEPROM (24C16 IC on MCU).
Err4	TARGET SENSOR JAMMED	Check Target movement is free & test sensor using switch test.
Err5	COIN SWITCH ERROR	Check switch movement & test coin switches using switch test.

*** NOTE! ***

- Error numbers displayed in the Yellow Player Score display indicate the error has occurred on the Yellow Player side
- Error numbers displayed in the Blue Player Score indicate the error has occurred on the Blue Player side
- The exception is Err3, this is displayed on the Yellow Player Score display only.



■ Err1 – TICKET ERROR

This error usually occurs if the game has run out of tickets or there is a ticket jam. A less common reason is if the game PCB tries to dispense tickets but doesn't get a notch pulse for approximately three seconds. You can test the notch pulse by passing a ticket in and out of the notch sensor. (See *Switch Test*, page 11).

If the game was out of tickets or jammed, replace the tickets, clear the ticket jam and then push the test button once to clear the error. The game will then payout any owed tickets.

■ Err3 – EEPROM ERROR

This Error is only displayed in test mode and means that the CPU cannot read the EEPROM, or is receiving errors during communication with the EEPROM (The 24C16 IC on the main MCU PCB). This could cause problems with the game audits and program settings. The first thing to do is trying to switch ON and OFF the machine in at least 2 cycles, if message still appear than replace the EEPROM IC Atmel 24C16 on the CPU PCB with the new EEPROM, If still Error message, this could be a problems with the game audits and program. If this error occurs, send your main MCU PCB to the nearest authorized LAI games dealer for repair.

■ Err4 – TARGET SENSOR JAM

This error occurs if one or more of the target sensors are continuously active. The target sensors are located behind the Fire hydrant on the playfield, and are accessed through the lower back door. The magnets that activate these sensors are located on the actual targets in the playfield.

This error can be caused by the target(s) being jammed and not swinging freely. Clean the targets are make sure they are swinging properly and test the sensors in the switch test mode (See page 11) and the run test mode (See page 13).

This error can also be caused by the target sensor(s) being installed too close to the magnet(s) on the target. Make sure that the sensors are far enough from the target magnets that the sensor(s) are not active when the target is in it rest position (Use *Switch Test*, page 11).

■ Err5 – COIN SWITCH ACTIVE ERROR

This Error is displayed when a coin input has been active continually for 5 seconds or longer. The problem is likely due to a stuck coin switch or someone trying to „string“ a coin.

This error can also be caused by connecting the Coin Input wire to the Normal Closed (NC) connection on the coin switch.

Enter switch test mode (See page 11) to check with coin switch is active and check the micro-switch on the appropriate coin mechanisms.



FUSE INFORMATION

*** WARNING! ***

***Always** turn **OFF** Mains power and unplugged the game, before replacing any fuses.*

■ **MAIN AC SUPPLY FUSE (1 x 6 AMP FAST BLOW, M205 TYPE)**

This fuse is for the main AC supply and is situated in the IEC mains input socket.

*** NOTE! ***

- The power cord must be removed before the fuse can be accessed.

■ **MCU POWER FUSE (1 x 1.5 AMP FAST BLOW, M205 TYPE)**

This fuse is for the power supply to the MCU PCB.

■ **MCU CONTROL FUSES (2 x 5 AMP FAST BLOW, M205 TYPE)**

These fuses are for the DC transistor drivers on the MCU PCB

■ **AC DRIVER FUSES (10 AMP FAST BLOW, M205 TYPE)**

This fuse is for the 24VAC Lamps from the 8-Channel AC Driver PCB

■ **24VAC TRANSFORMER (4 x 10 AMP FAST BLOW, 3AG TYPE)**

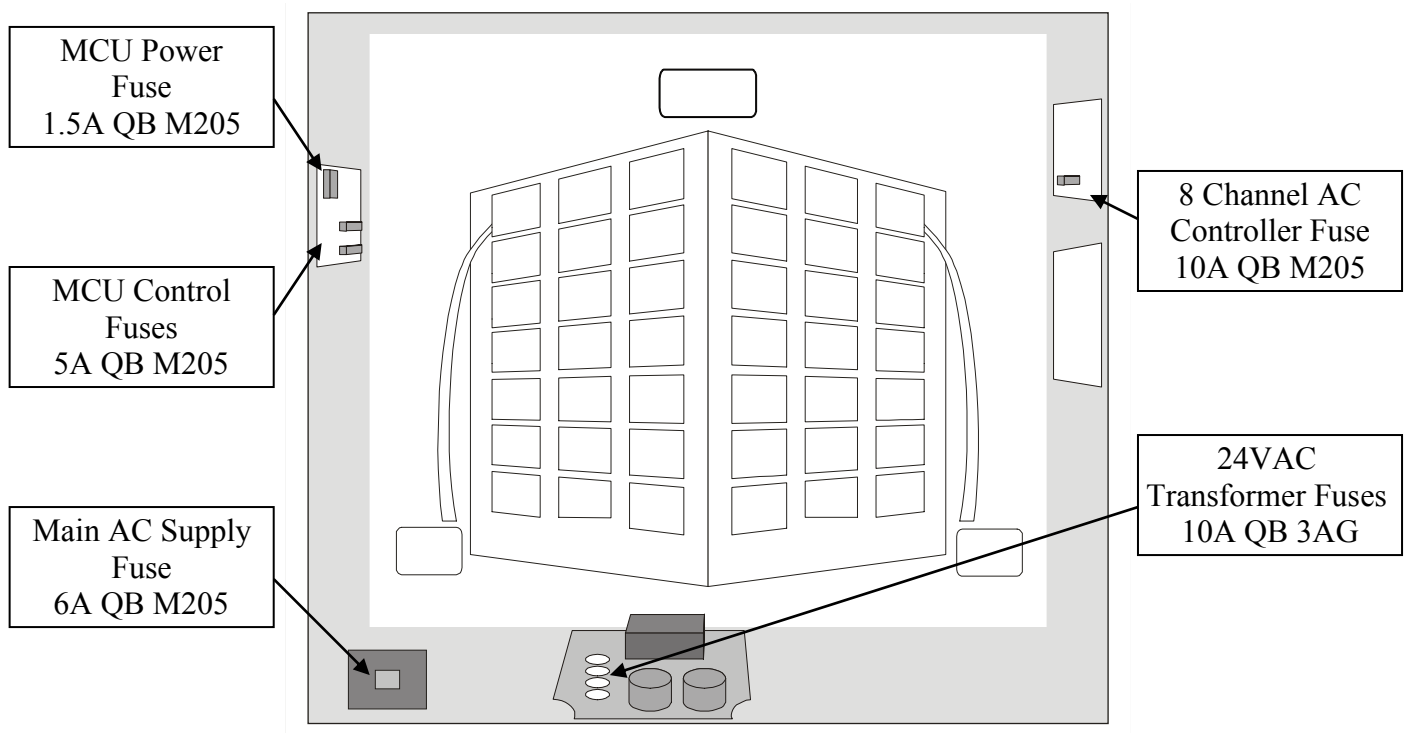
This fuse is for the 24VAC Lamps from the 32-Channel AC Driver PCB

*** CAUTION! ***

***Do Not** use any fuse that does not meet the specified rating.*

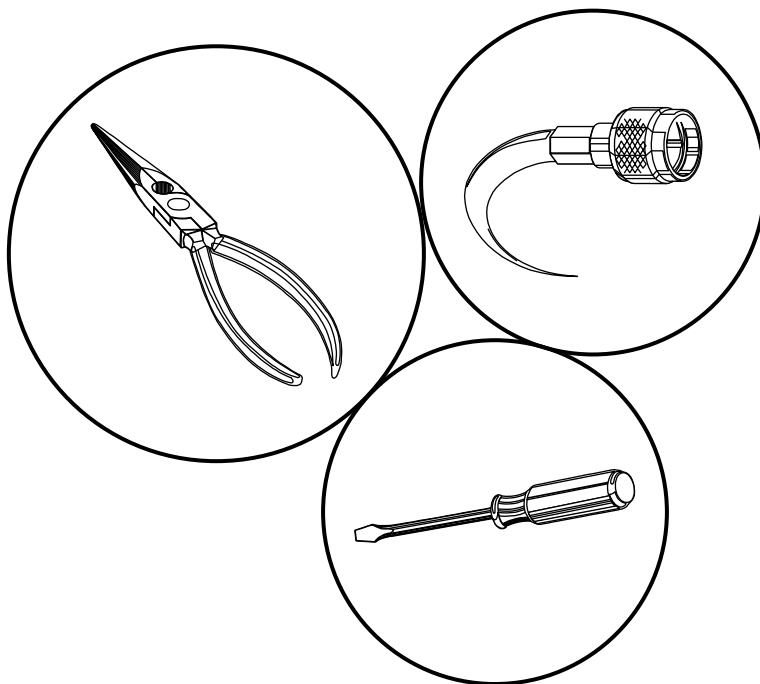
FUSE LOCATION DIAGRAM

As viewed from rear





SECTION A: SERVICE INSTRUCTIONS



BE SURE TO READ THE FOLLOWING
Carefully before servicing this machine

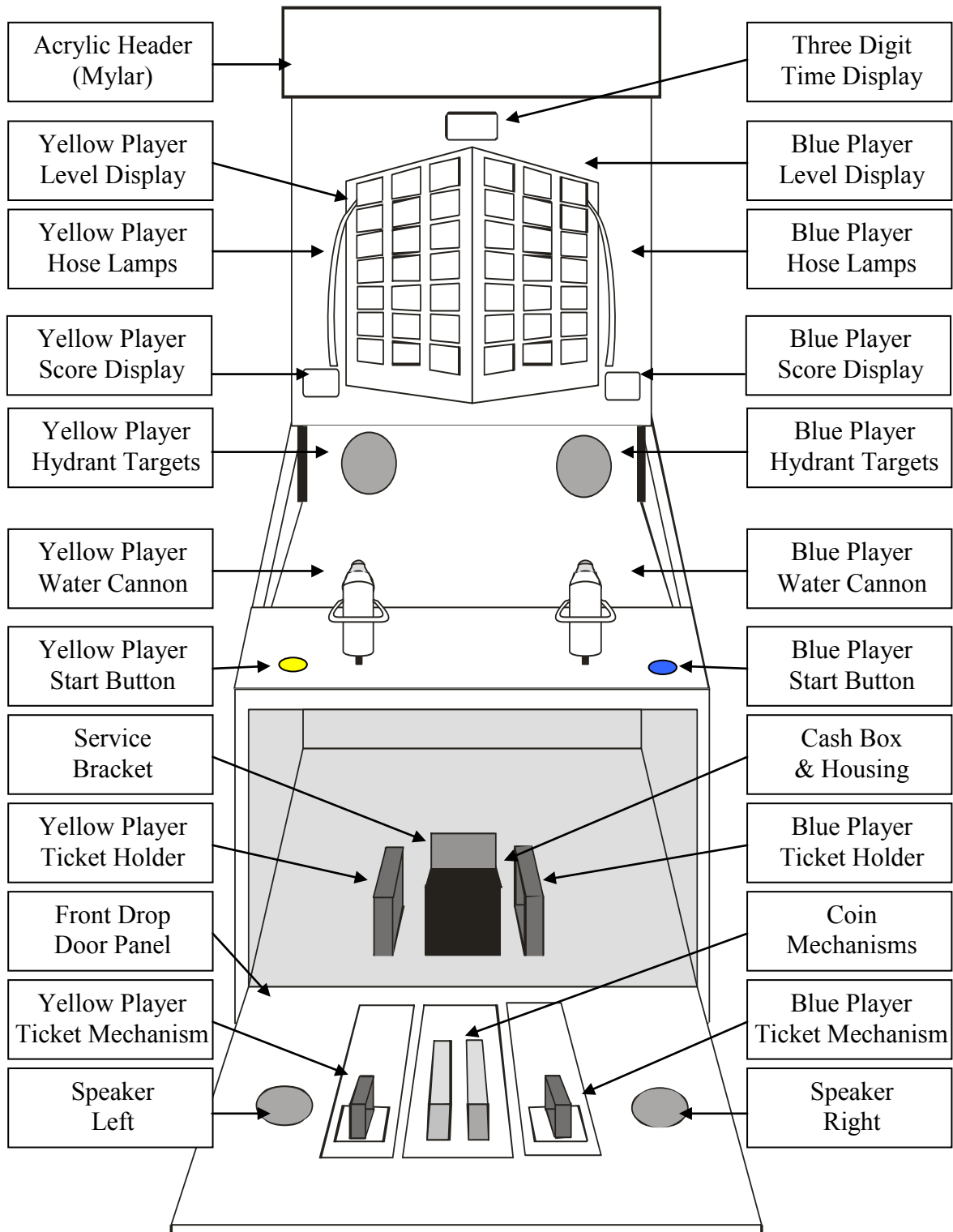


A

LOCATING AND ACCESSING PARTS

PARTS LOCATION DIAGRAM

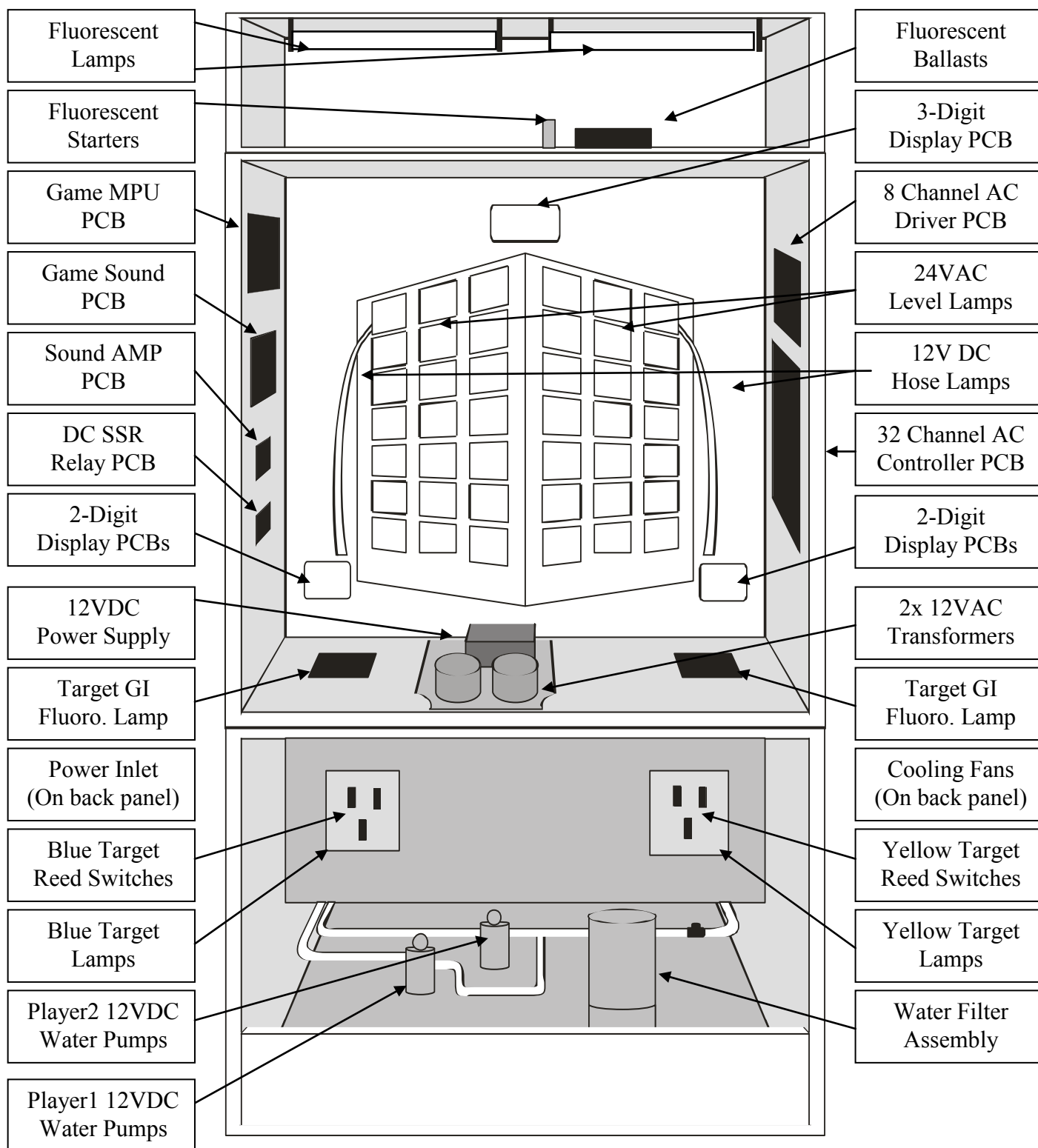
As viewed from front



LOCATING AND ACCESSING PARTS

PARTS LOCATION DIAGRAM B

As viewed from rear





PARTS DESCRIPTION

■ COIN MECHANISMS

The coin mechanisms can be accessed inside the front center door in the center of the machine cabinet.

■ CASH BOX

The cash box is located inside the coin door on the front of the machine cabinet.

■ TICKET MECHANISMS

Two ticket mechanisms can be accessed inside the front doors in the center of the machine cabinet, one for each player

■ TICKET HOLDERS

Two ticket holder are located each side of the cash box and can be accessed inside the front door in the center of the machine cabinet

■ SPEAKERS

Two speakers are located on the front side of the cabinet. Access is from the front of the machine.

■ GAME CONTROLS:

Located at the front of the machine cabinet.

YELLOW START BUTTON: The Yellow Player Start button is the large yellow round illuminated button located left-hand side of the control panel. This button is used to start a single player game and for test and program adjustments

BLUE START BUTTON: The Blue Player Start button is the large blue round illuminated button located right-hand side of the control panel. This button is used to start a single or multi player game.

■ SERVICE CONTROLS:

Located on the service panel mounted on top of the cash box and accessed through the Coin Door.

SERVICE BUTTON: Used to input credits to the game without activating the coin counter, and to perform test procedures in combination with the test button

TEST BUTTON: Used to perform the test mode, in combination with the Service button.

VOLUME KNOB: Used to adjust the speaker's sound level.





■ POWER CORD

The power cord is a standard IEC power cord (as used on computers) that is plugged in to the power inlet socket at the rear of the machine. The power cord can be removed for transport.

■ POWER INLET

The power inlet is located at the rear of the machine on the Left-hand side as viewed from the rear. It is a standard IEC inlet socket.

■ MAINS SWITCH

The mains switch is located on the power inlet assembly along with the mains fuse, and IEC inlet socket.

■ FUSES

For locations of all fuses refer to Fuses and Fuse location of this manual.

* WARNING! *

Always turn **OFF** Mains power and unplugged the game, before replacing any fuses

Always use the correct rated fuse. Refer to fuse information.

■ PCB's

For location of all game PCB's, refer to the Parts Location diagram page 30 of this manual.

■ POWER SUPPLY

The power supply is located on the base of the upper cabinet and is accessed from the rear of the machine. It is a 12V 13A switching power supply.

■ TRANSFORMERS

There are two transformers located on the base of the upper cabinet and is accessed from the rear of the machine. They supply the 24VAC for the Level and Target Lamps.

■ COOLING FANS

There are two medium size cooling fans located on the bottom left and right rear of the upper cabinet. Access is through the upper rear door at the back of the machine.

■ TARGET REED SWITCH

The target reed switches are located in the rear of the lower cabinet. They are activated by magnets mounted on the rear of the swinging targets. Access is through the rear lower door.

■ WATER FILTER

The water filter is located to the left in the rear of the lower cabinet. Access is through the rear lower door. The lower part of the filter is detachable for removal and replacement of the filter cartridge.

■ PUMPS

Two 12VDC are located to the right in the rear of the lower cabinet, one for each player water cannon. Access is through the rear lower door.



LAMPS

*** WARNING! ***

***Always** turn **OFF** Mains power and unplugged the game, before replacing any lamps.*

***Always** allow time for cooling as Lamps that have been active for a time may still be too hot to touch.*

■ HEADER LAMPS

There is two standard FL 15 fluorescent tubes for the Header Display. Access is by the removing of the machine header cover and accessing the tubes from the front.

■ TARGET ILLUMINATION LAMPS:

There is two electronic “Energy Saver” 9 watt fluorescent lamps for illuminating the target area and are accessed from the rear upper door.

*** CAUTION! ***

*The Target Illumination lamps **must** be electronic compact fluorescent type. The use of Incandescent type lamps **will cause heat damage** to the machine.*

■ LEVEL DISPLAY LAMPS

There are 84 x 24V 5/8W GE301/303 lamps mounted at back of display. These are standard 24/28 volt truck / aircraft lamps and are accessed from the rear upper door.

■ HOSE DISPLAY LAMPS

There are 12 x 24V 5/8W GE301/303 lamps mounted at back of display. These are standard 24/28 volt truck / aircraft lamps and are accessed from the rear upper door.

■ TARGET LAMPS:

There are 6 x 24V 5/8W GE301/303 lamps mounted at back of each hydrant target. These are standard 24/28 volt truck / aircraft lamps and are accessed from the rear lower door of the machine.

■ COIN DOOR LAMPS

The coin door lamps all are 12V/DC GE194 or equivalent and can be accessed through the coin door.

■ BUTTON LAMPS

The button lamps all are 12V/DC GE194 or equivalent and can be accessed through the coin door or back door.

*** CAUTION! ***

***Always** replace the lamps with the same or equivalent size, wattage and voltage.*



MAINTENANCE

CLEANING AND CHECK UP

■ EXTERIOR

Regularly dust and clean the external cabinet areas as required, using a soft water-damp cloth and mild soap. Check for blown bulbs and replace as required.

Any scratches or marks in the fiberglass or acrylic can be buffed out using car polish or cut and polish.

*** CAUTION! ***

Do not use solvents on the panels as it may affect the artwork.

■ INTERIOR

Regularly dust and vacuum the interior of the cabinet, taking care to remove any objects that may have fallen on the PCBs. Check and tighten all fixing hardware and fasteners as required.

*** WARNING! ***

Always turn **OFF** Mains power and unplugged the game, before cleaning the interior of the machine.

Always after cleaning the cabinet interior, check all harness connectors and restore all loose or interrupted connections.

Regularly check that all the Display and Button Lamps are operating through the Sounds, Lamps and Display Test (See page 11). Replace any globes that are not operational.

Regularly check that the two cooling fans are clear of dirt buildup and are operational. Clean air-flow of any dirt or obstruction and oil or replace any fan that is not operational.

*** CAUTION! ***

Always replace any non operational fans. This will prevent overheating of the upper cabinet and prolong the life of the electronic components and lamps.

■ WATER SYSTEM

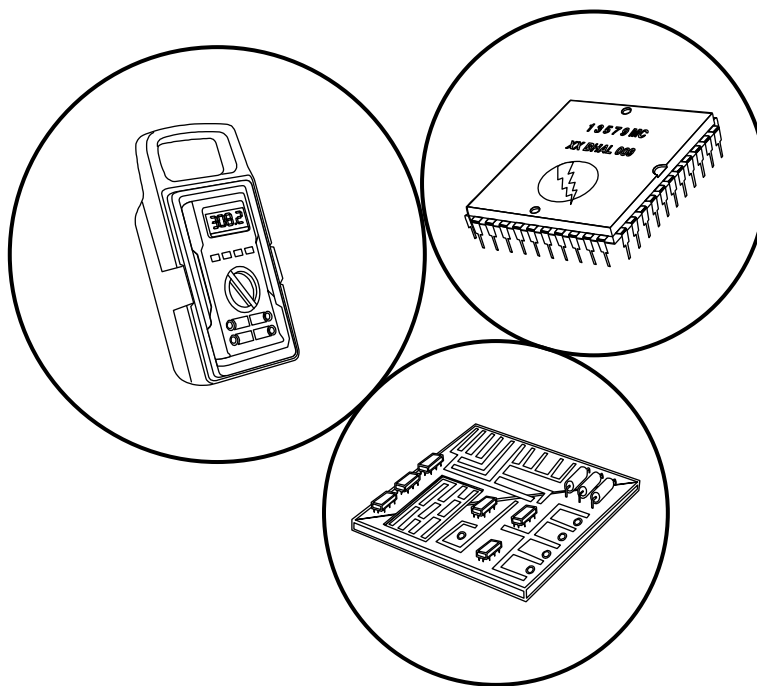
Regularly enter Run Test Mode and run both pumps together to check the Water Cannon pressure is sufficient for activating the Targets, adjust as needed.

Regularly empty the water from the machine and replace with fresh water. Refer to page 6 for emptying and filling of the machine.

Regularly check the filter cartridge is not clogged and change if necessary. The symptoms of clogged filter are insufficient pump pressure to operate two players at the same time.



SECTION B: TECHNICAL DETAILS



It is advised that anybody using SECTION B for repairing or modifying any of the components of the game should be a qualified technician, having at least a basic knowledge of digital components, integrated circuits and electricity.

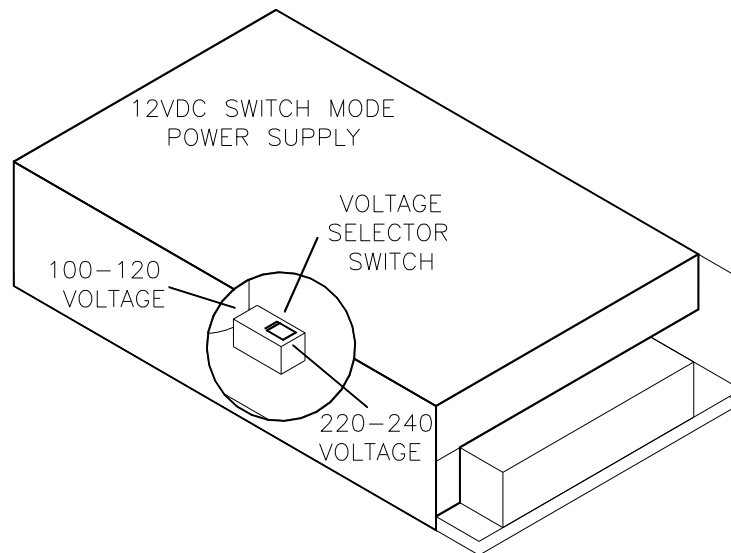


B

MAINS VOLTAGE ADJUSTMENT

■ POWER SUPPLY

The Switch Mode Power Supply has a switch to set the mains voltage range. It is located at the rear of the game cabinet, and is accessed via the back door. Use a thin blade screwdriver to move the selector switch to the desired mains voltage (See Diagram Below)

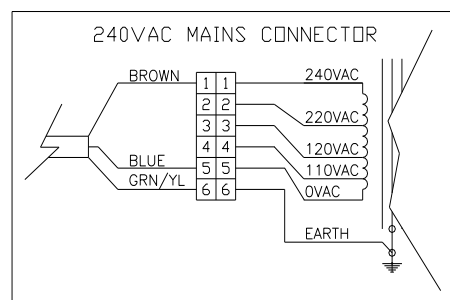
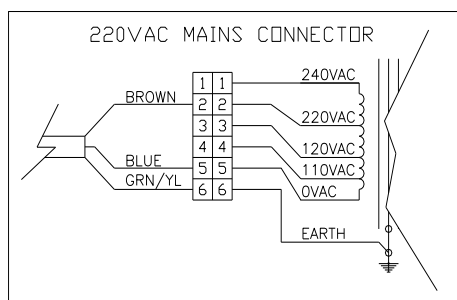
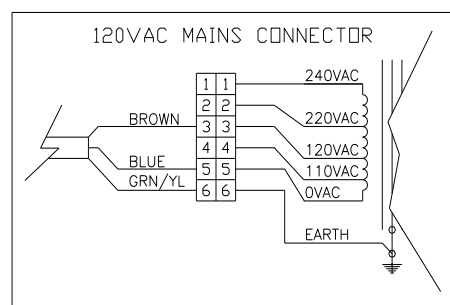


■ TRANSFORMER CONNECTORS

Locate the machine transformer(s) in the base of the cabinet. If unsure of the location of the transformer(s), refer to Parts location diagram on page 30 of this manual. Change the position of the „ACTIVE“ or „HOT WIRE“ input, (marked brown on the diagram), to the position for the desired mains voltage. (See Diagram Below)

6 WAY CONNECTOR PINOUT

PIN	FUNCTION
1	240VAC
2	220VAC
3	120VAC
4	110VAC
5	0VAV (NEUTRAL)
6	EARTH





■ FLORESCENT TUBE BALLASTS AND STARTERS

Locate the florescent tube ballasts and starters in the back of the cabinet. If unsure of the location of any ballasts or starters, refer to *Parts location diagram on page 30*. These have to be removed and replaced with an equivalent wattage at you local mains voltage level.

■ TARGET ILLUMINATION LAMPS

Locate the two “Energy Saver” 9 watt fluorescent Target Illumination lamps, which are accessed from the rear of the machine, (*see page 30*). These have to be removed and replaced with an equivalent wattage at you local mains voltage level.

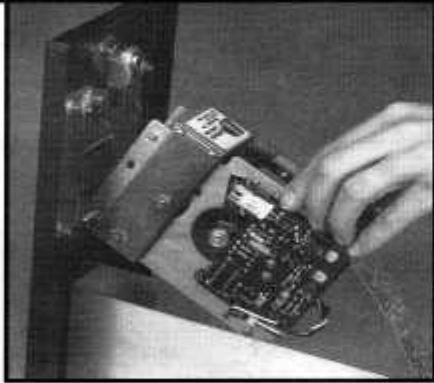
■ COOLING FANS

Locate the two cooling fans, which are accessed from the rear of the machine, (*see page 30*). These can to be removed and replaced with an equivalent size at you local mains voltage level. Alternately, use the wiring as shown in the Power Wiring Diagram (*See Page 51*) to “auto tap” the 220VAC required for the cooling fans.



TICKET DISPENSER REFERENCE GUIDE

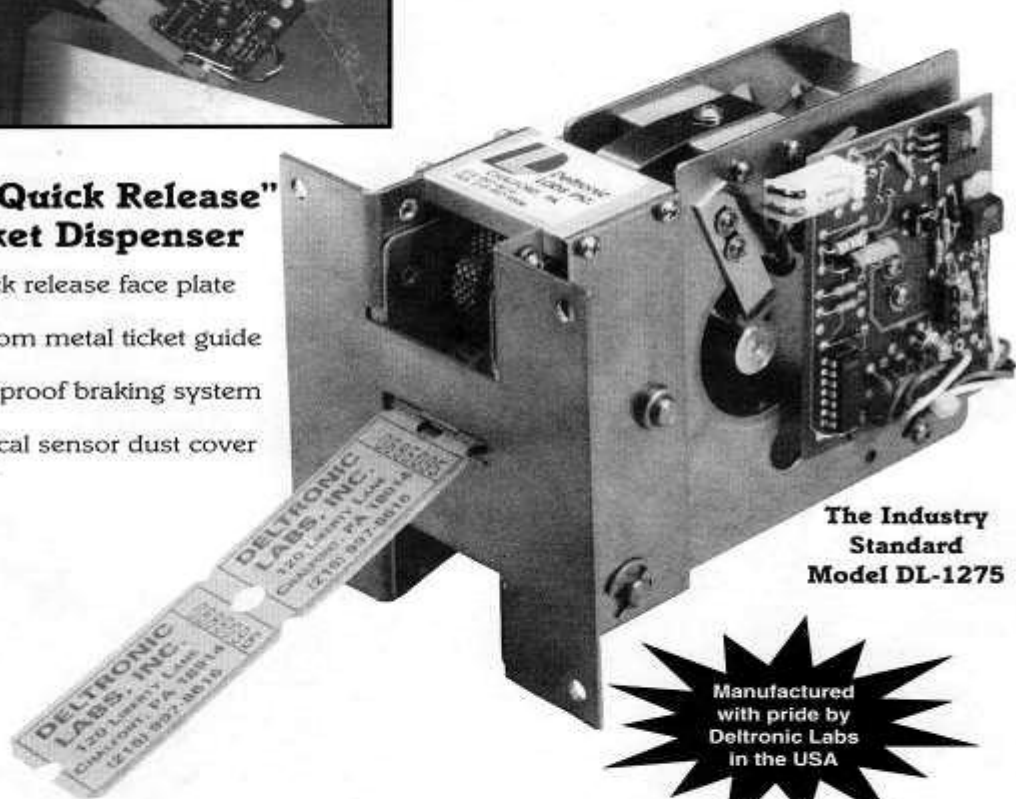
"Quick Release" Ticket Dispenser Manual



U.S. Patent 5833104
Additional Patents Pending

The "Quick Release" Ticket Dispenser

- Quick release face plate
- Bottom metal ticket guide
- Foolproof braking system
- Optical sensor dust cover



The Industry
Standard
Model DL-1275

Manufactured
with pride by
Deltronic Labs
in the USA

**Another quality product from Deltronic Labs . . .
the industry leader in ticket dispensers.**

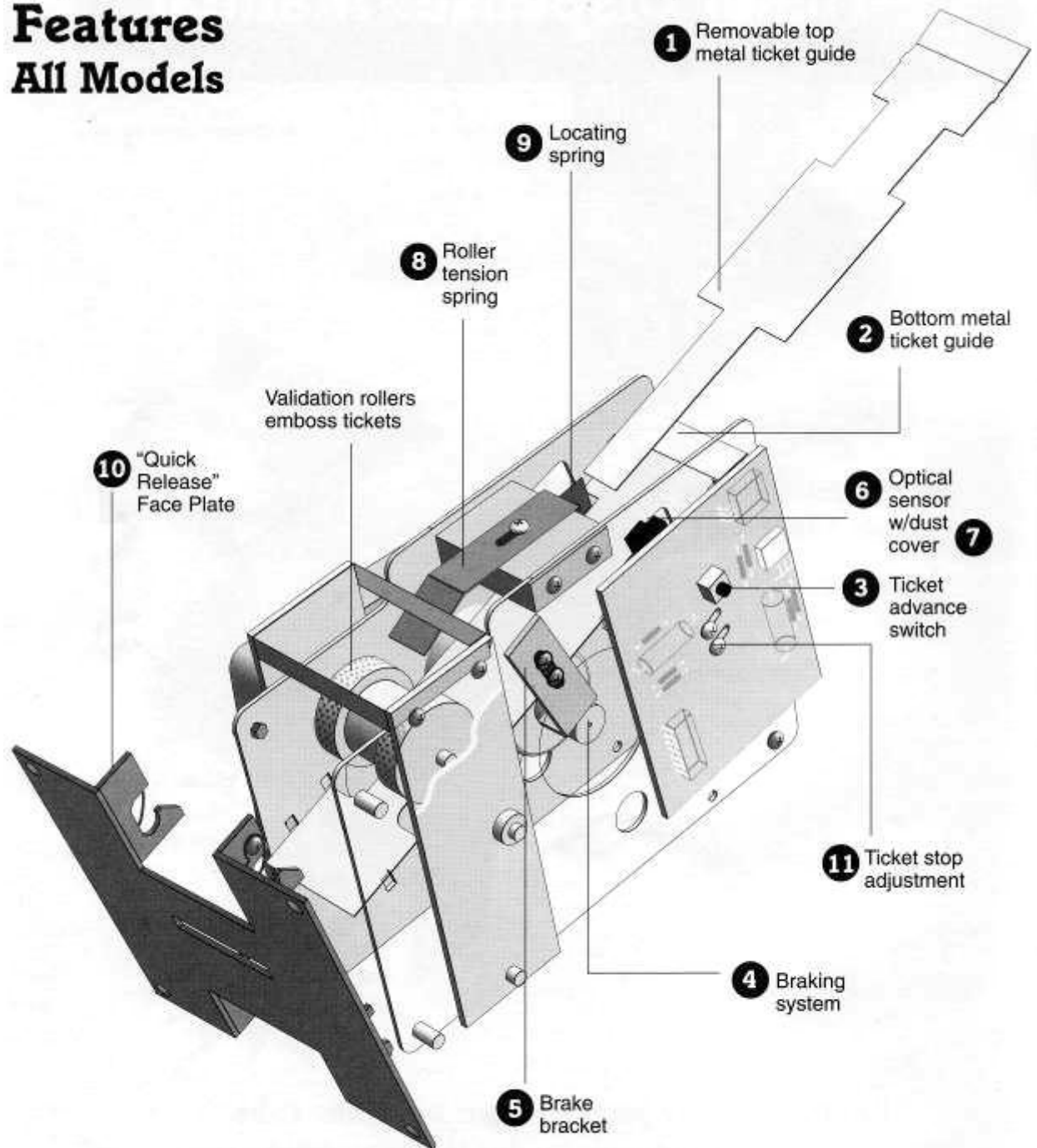


Deltronic Labs, Inc. 120 Liberty Lane, Chalfont, PA 18914
215-997-8616 • FAX# 215-997-9506 • Web Site: www.deltroniclabs.com

“Quick Release” Ticket Dispenser

Features

All Models



Deltronic Labs, Inc. 120 Liberty Lane, Chalfont, PA 18914 • 215-997-8616 • FAX# 215-997-9506 • www.deltroniclabs.com

Ticket Dispenser Assembly

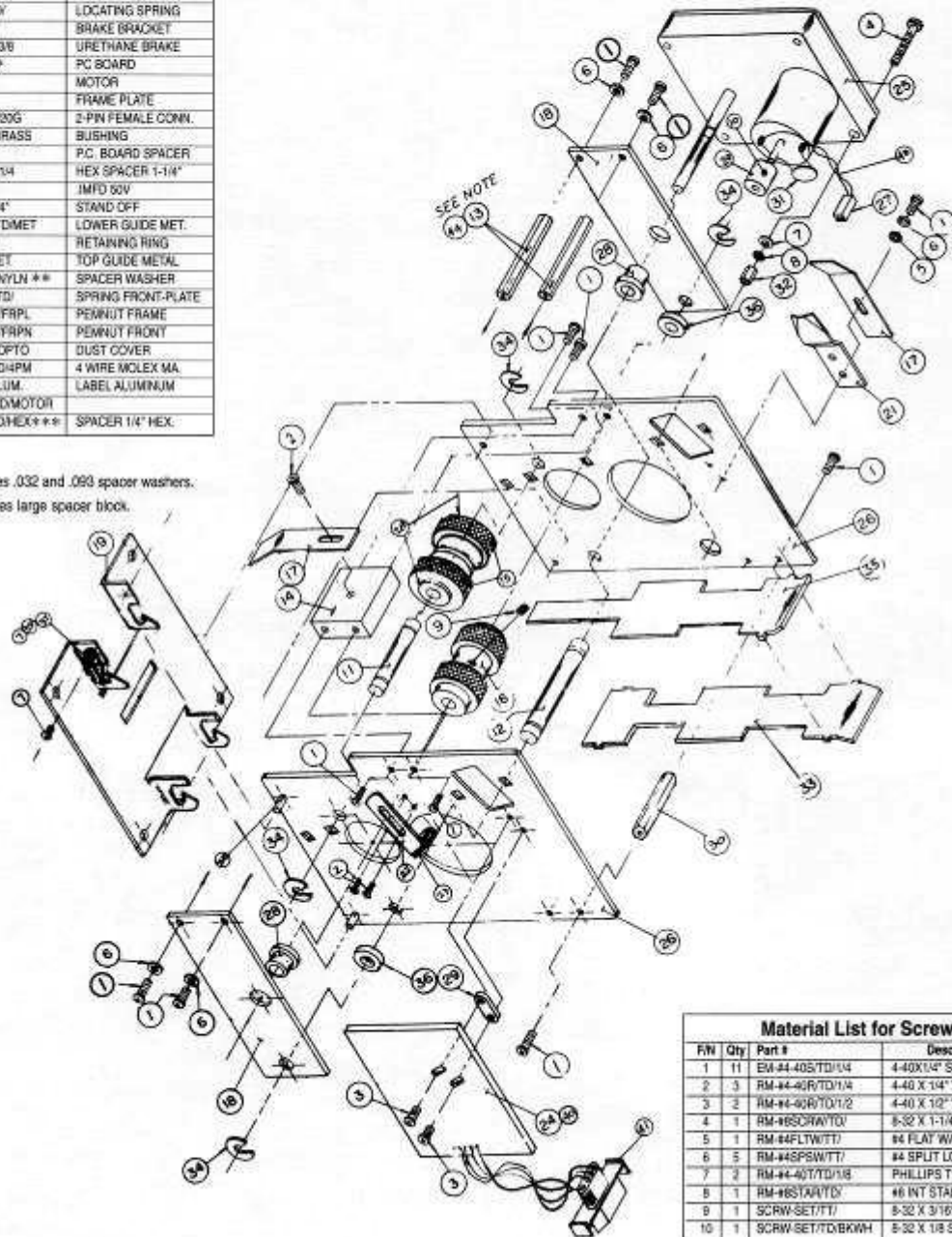
Details of Parts

F/N	Qty	Deltronic Labs P/N	Name
11	1	SHFT-IDLRLR/TD/	IDL. ROLLER SHAFT
12	1	RM-SFTMTR/TD/	MOTOR PIVOT SHAFT
13	1	SPAC PIVBLK/TD/HCL	PIVOT BRACKET SPAC
14	1	RM-SPCPB/TD/	SPACER BLOCK
15	2	RM-PLRDL/TD/VALD	ROLLER
16	1	RM-RLRDR/TD/VALD	DRIVE ROLLER
17	2	SPRG-TENSM/TD/	TENSION SPRING
18	2	RM-BKTPVT/TD/	MTR PIVOT BKT
19	1	RM-FANLFT/TD/NCFM	FRONT PANEL
20	1	RM-WHLBRK/TD/	BRAKE WHEEL
21	1	SPRG-LOCAT/TD/	LOCATING SPRING
22	1	RM-BKTBK/TD/	BRAKE BRACKET
23	1	RM-BKTLUB/TD/3/8	URETHANE BRAKE
24	1	PCBD-1275/TD/+	PC BOARD
25	1	RM-MOTORTD/	MOTOR
26	2	RM-PLATFR/TD/	FRAME PLATE
27	1	RM-CONN2PTE/20G	2-PIN FEMALE CONN.
28	4	BRNG-F312TT/BRASS	BUSHING
29	1	SPAC-PCBD/TD/	P.C. BOARD SPACER
30	1	SPAC-HEX/TD/1-1/4	HEX SPACER 1-1/4"
31	1	RM-1M/T/50V	IMFD 50V
32	1	SPAC-HEX/TD/1/4"	STAND OFF
33	1	GUID-BOTTOM/TD/MET	LOWER GUIDE MET.
34	4	RING-E23RT/TT/	RETAINING RING
35	1	GUID-TOP/TD/MET	TOP GUIDE METAL
36	2	PULY-SP12TE/NYLN **	SPACER WASHER
37	2	SPRG-FRONT/TD/	SPRING FRONT-PLATE
38	4	RM-PENMUT/TD/FRPL	PENMUT FRAME
39	2	RM-PENMUT/TD/FRPN	PENMUT FRONT
40	1	COVR-H21A/TD/OPTO	DUST COVER
41	1	CONN-MOLEX/TD/4PM	4 WIRE MOLEX MA.
42	1	RM-LABEL/TD/ALUM.	LABEL ALUMINUM
43	1	WIRE-REDBLK/TD/MOTOR	
44	2	SPAC-PIVBRK/TD/HEX***	SPACER 1/4" HEX.

* Order by Model #

** Note: F/N #36 replaces .032 and .093 spacer washers.

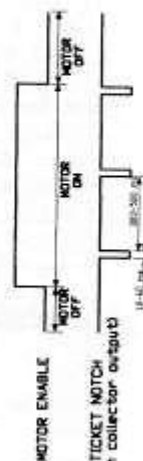
*** Note: F/N #44 replaces large spacer block.



Material List for Screws

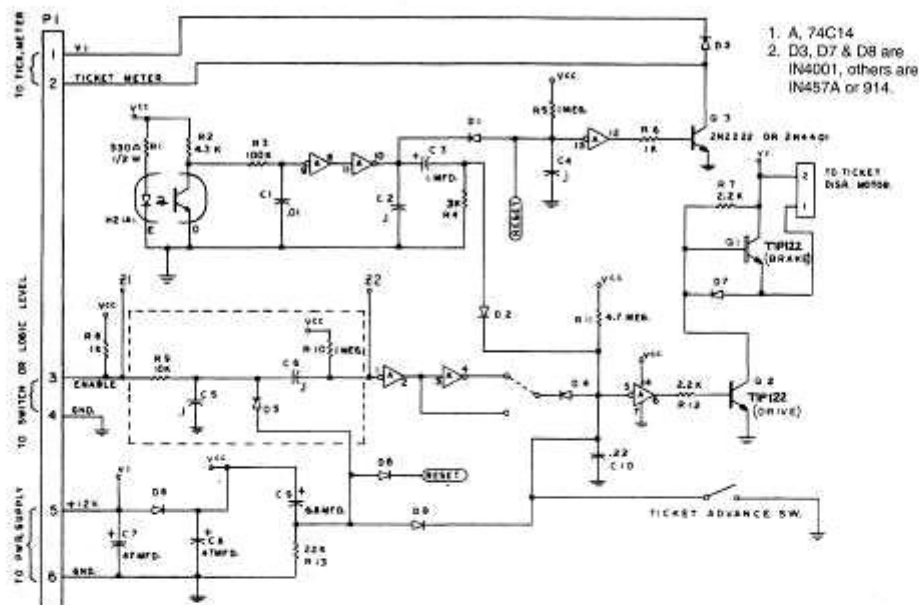
F/N	Qty	Part #	Description
1	11	EM-44-40S/TD/1/4	4-40X1/4" SCREW
2	3	RM-44-40R/TD/1/4	4-40 X 1/4" WASHER HEAD
3	2	RM-44-40R/TD/1/2	4-40 X 1/2" WASHER HEAD
4	1	RM-46SCRW/TD/	5-32 X 1-1/4"
5	1	RM-44FLTW/TT/	#4 FLAT WASHER
6	5	RM-44SPSW/TT/	#4 SPLIT LOC. WASHER
7	2	RM-44-40T/TD/1/8	PHILLIPS TRUSSHEAD
8	1	RM-46STAR/TD/	#6 INT STAR WASHER
9	1	SCRW-SET/TT/	5-32 X 3/16" SET SCREW
10	1	SCRW-SET/TD/BKWH	5-32 X 1/8" SET SCREW

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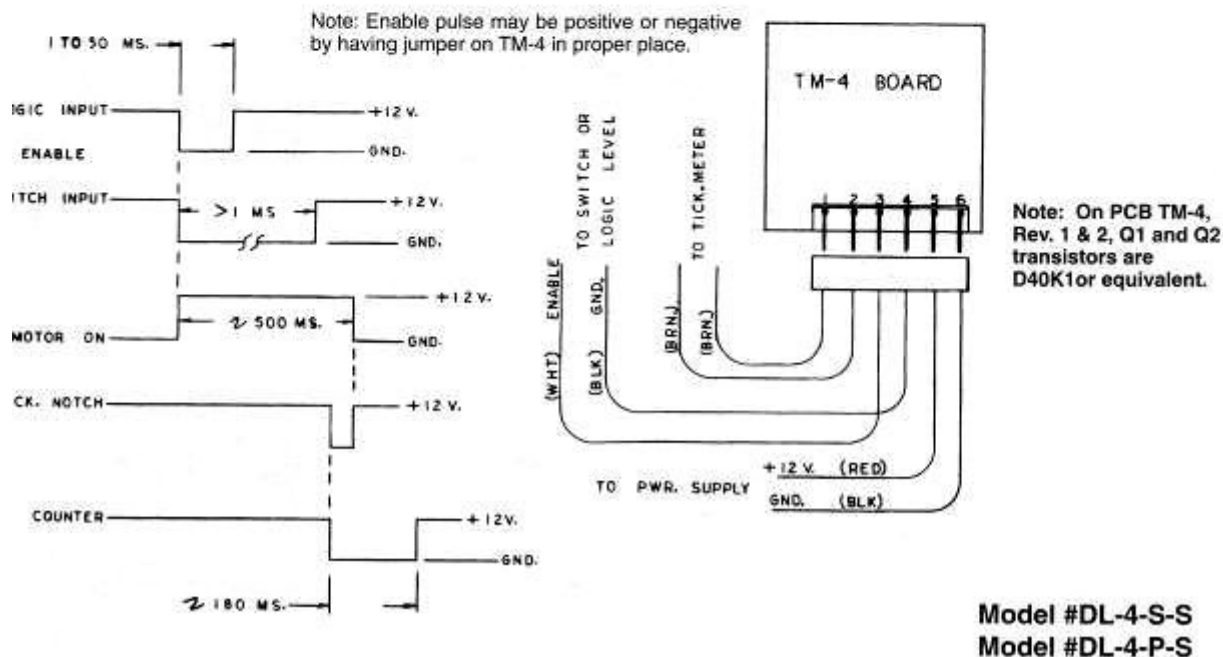
Control Board

Models DL-4-S-S DL-4-P-S



Model #DL-4-S-S, SW Input
Model #DL-4-P-S, Logic Input.

Note: With logic input components and dotted lines are omitted and Z1 is jumpered to Z2.



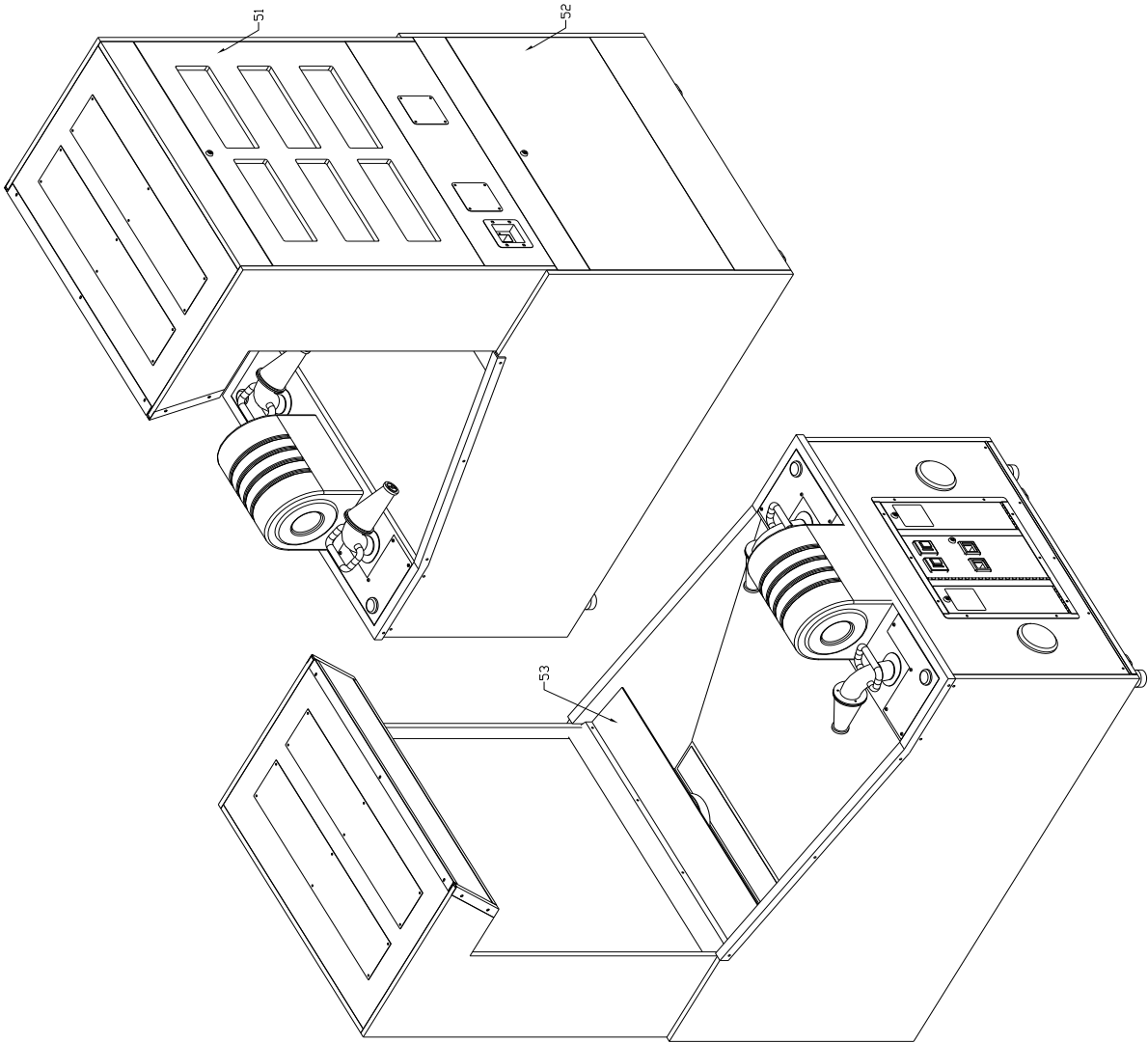
Model #DL-4-S-S
Model #DL-4-P-S

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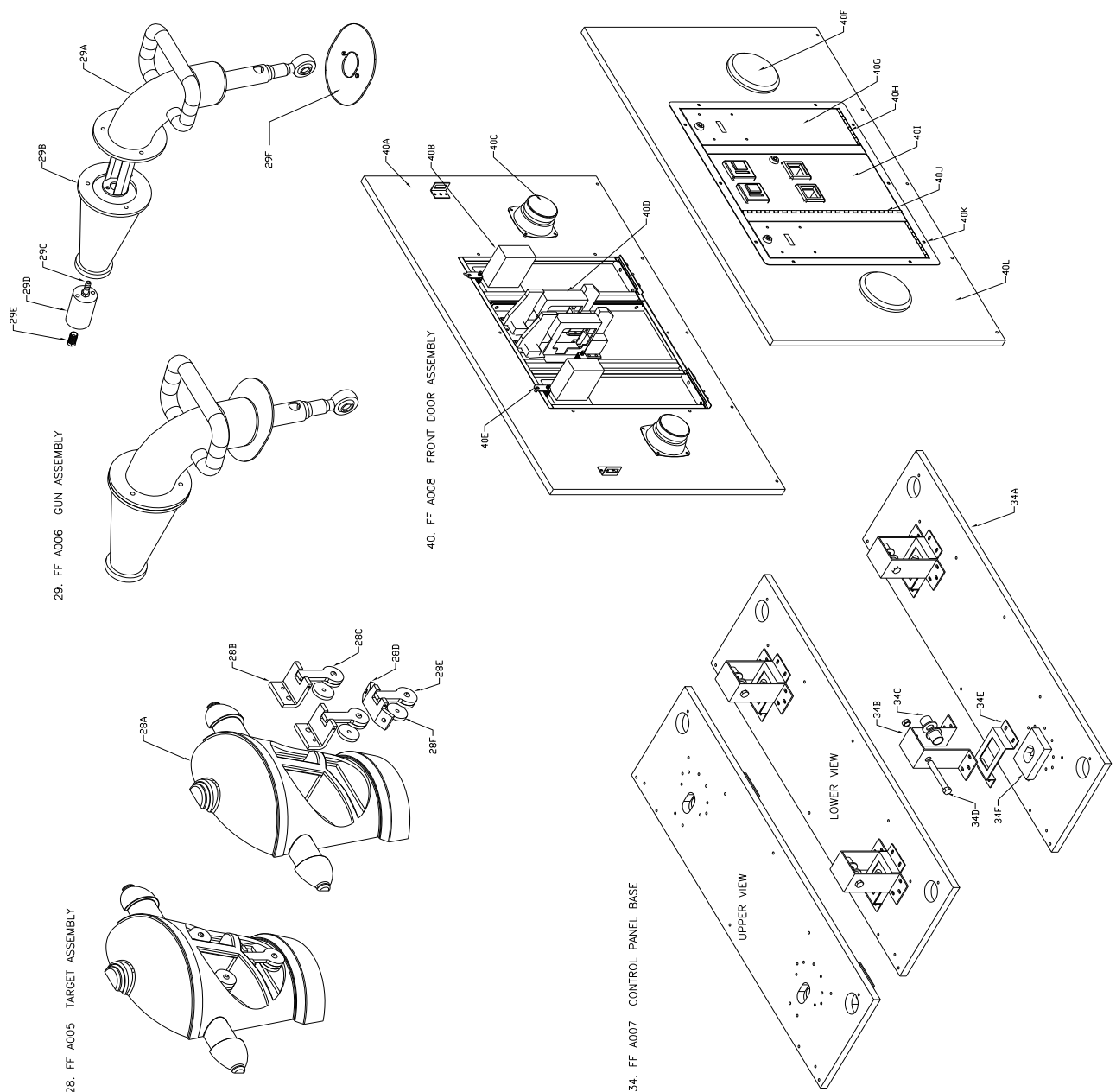
3 D EXPLODE PARTS

NO	CODE	DESCRIPTION	QTY
51	FF A011	BACKDOOR UPPER CABINET ASSEMBLY	1
	FF1-FW-017-R0	BACKDOOR UPPER WOOD ONLY	1
	HM0004	LOCK ANGLE	1
	FF1-FW-012-R0	BACKDOOR GRILL	3
52	FF A012	BACKDOOR LOWER CABINET ASSEMBLY	1
	FF1-FW-006-R0	BACKDOOR LOWER WOOD ONLY	1
	HM0004	LOCK ANGLE	1
53	FF1-FP-014-R0	TOP ACRYLIC COVER	1
-	FF H005	UPPER CABINET MAIN HARNESS	1
-	FF H006	LOWER CABINET MAIN HARNESS	1



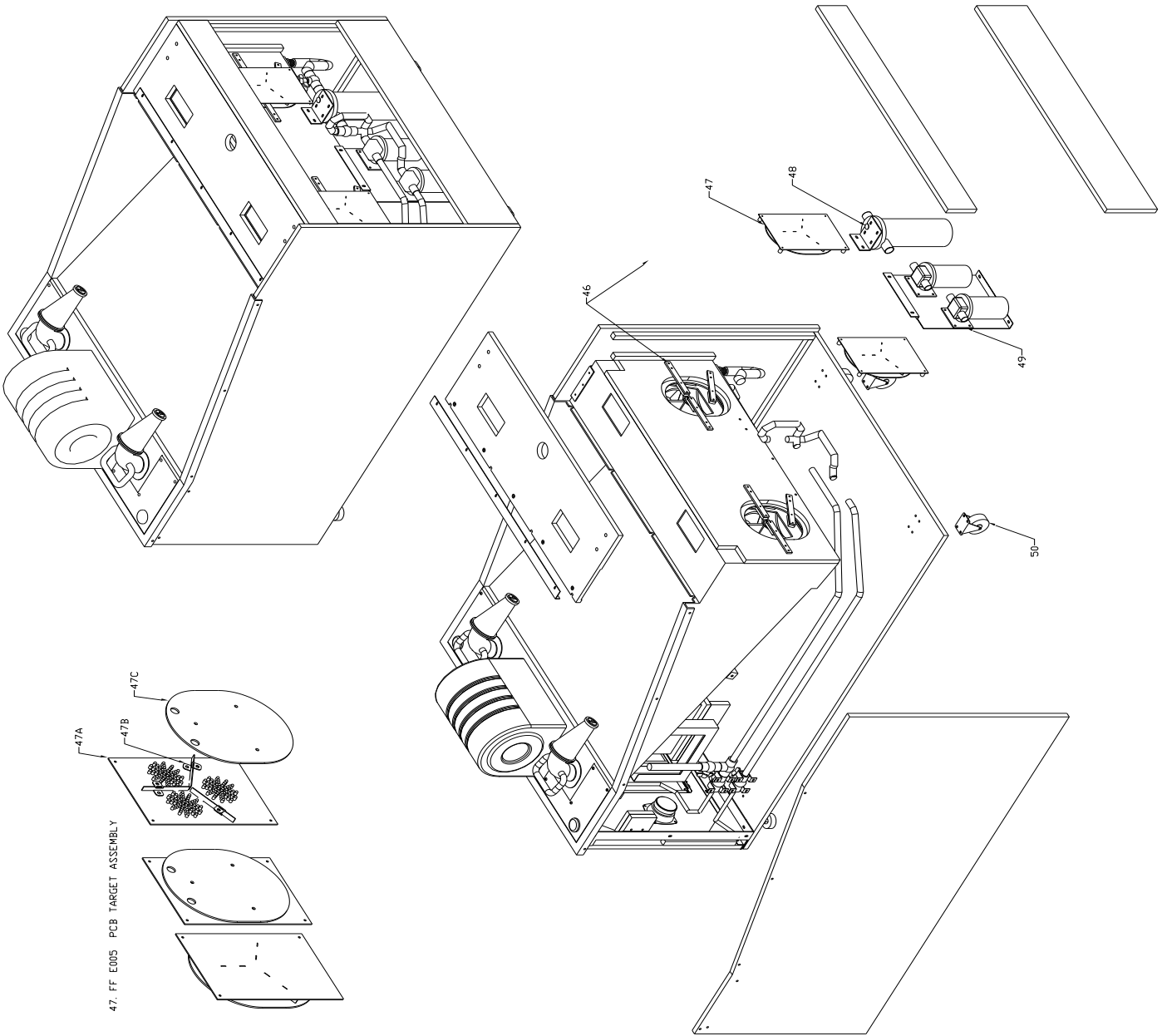


NO	CODE	DESCRIPTION	QTY	
28	FF A005	TARGET ASSEMBLY	1	
	HM2563	FIBER TARGET	1	
	28A	FF1-FP-007-R0	UPPER TARGET HOLDER	1R,1L
	28B	FF1-FP-010A-R0	ACRILIC TARGET UPPER	2
	28C	FF1-FP-006-R0	LOWER TARGET HOLDER	1
	28E	FF1-FP-010B-R0	ACRILIC TARGET LOWER	1
	28F	HM0053	TARGET MAGNET	3
	29	FF A006	GUN ASSEMBLY	1
FF1-SA-030-R0		GUN ASSEMBLY METAL ONLY	1	
HM2512		FIBER NOZZLE GUN	1	
29C		NPIPLE SELANG 1/8" x 1/4"	2	
29D		FF1-FP-008-R0	NOZZLE HOLDER	1
29E		FF1-FM-033-R0	NOZZLE GUN	1
29F		FF1-FP-012-R0	GUN HOLE COVER	2
FF A007		CONTROL PANEL BASE	1	
34	FF1-FW-004-R0	CONTROL PANEL LOWER	1	
	34B	FF1-FM-020-R0	GUN HOLDER BRACKET	2
	34C	FF1-SA-033-R0	WASHER STOPPER	4
	34D	HF1130	BAUT HEX M14x100 WITH NUT M14	2
	34E	FF1-FM-031-R0	RUBBER BRACKET	2
	34F	HM0055	GUN STOPPER	2
	40	FF A008	FRONT DOOR ASSEMBLY	1
		FF1-FW-003-R0	FRONT PANEL LOWER	1
EA1102		TICKET DISPENSER ENTROPY	2	
40C		SPEAKER 4" 8 Ohm 40W	2	
40D		HA0014	COIN MECHANISM HOLDER	2
40E		HM0004	LOCK ANGLE	3
40F		EP0605	SPEAKER COVER	2
40G		FF1-FM-036-R0	TICKET DOOR METAL ONLY	2
40H	FF1-FM-038-R0	TICKET DOOR HINGE	2	
	40J	FF1-FM-035-R0	CONDOOR METAL ONLT	1
	40J	FF1-FM-037-R0	CONDOOR HINGE	1
	40K	FF1-SA-01-R0	FRONT DOOR FRAME ASSEMBLY	1
	40L	AK3162	STICKER FRONT LOWER CABINET	1



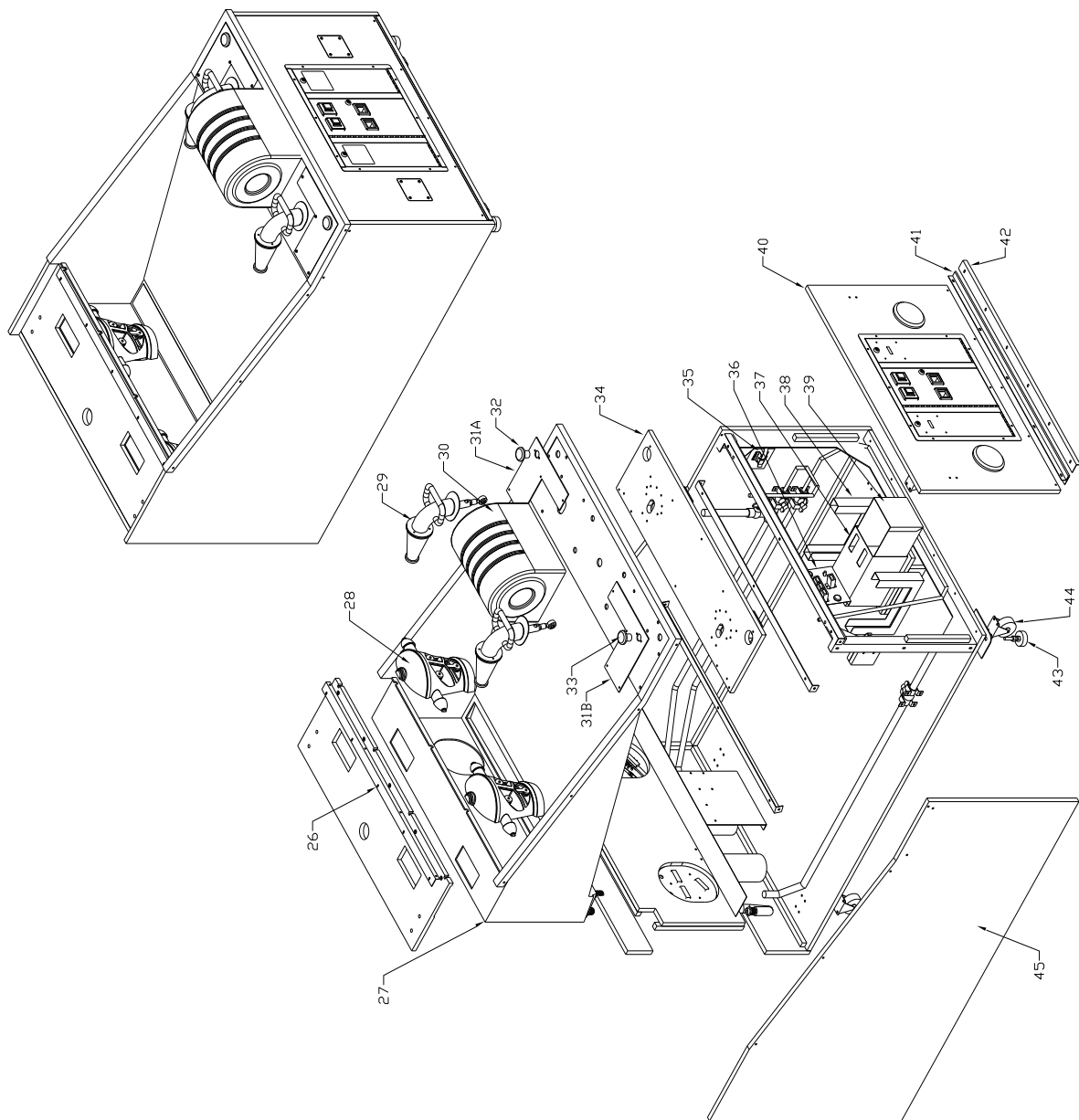


NO	CODE	DESCRIPTION	QTY
46	FF E004	TARGET SENSOR ASSEMBLY	6
46A	FF1-FP-01B-R0	SENSOR HOLDER ACRYLIC	6
46B	HM0052	DOOR SWITCH MAGNET	6
47	FF E005	PCB TARGET ASSEMBLY	2
47A	BAFB102	PCB FB102 NEW TARGET	2
47B	FF1-FM-004-R2	SENSOR BRACKET	6
47C	FF1-FP-004-R1	ACRYLIC SENSOR	2
48	FF A009	FILTER AIR ASSEMBLY	1
48A	FA0541	FILTER AIR HOUSING	1
48B	FF1-FM-008-R1	FILTER HOLDER METAL ONLY	1
49	FF A010	SHURFLO PUMP ASSEMBLY	1
49A	EA0542	SHURFLO PUMP MODEL 2088 - 424 - 544	2
49B	FF1-FM-003-R1	BRACKET PUMP	1
50	HM0005	CASTER WHEEL 3" FIXED MERK: VERO	2



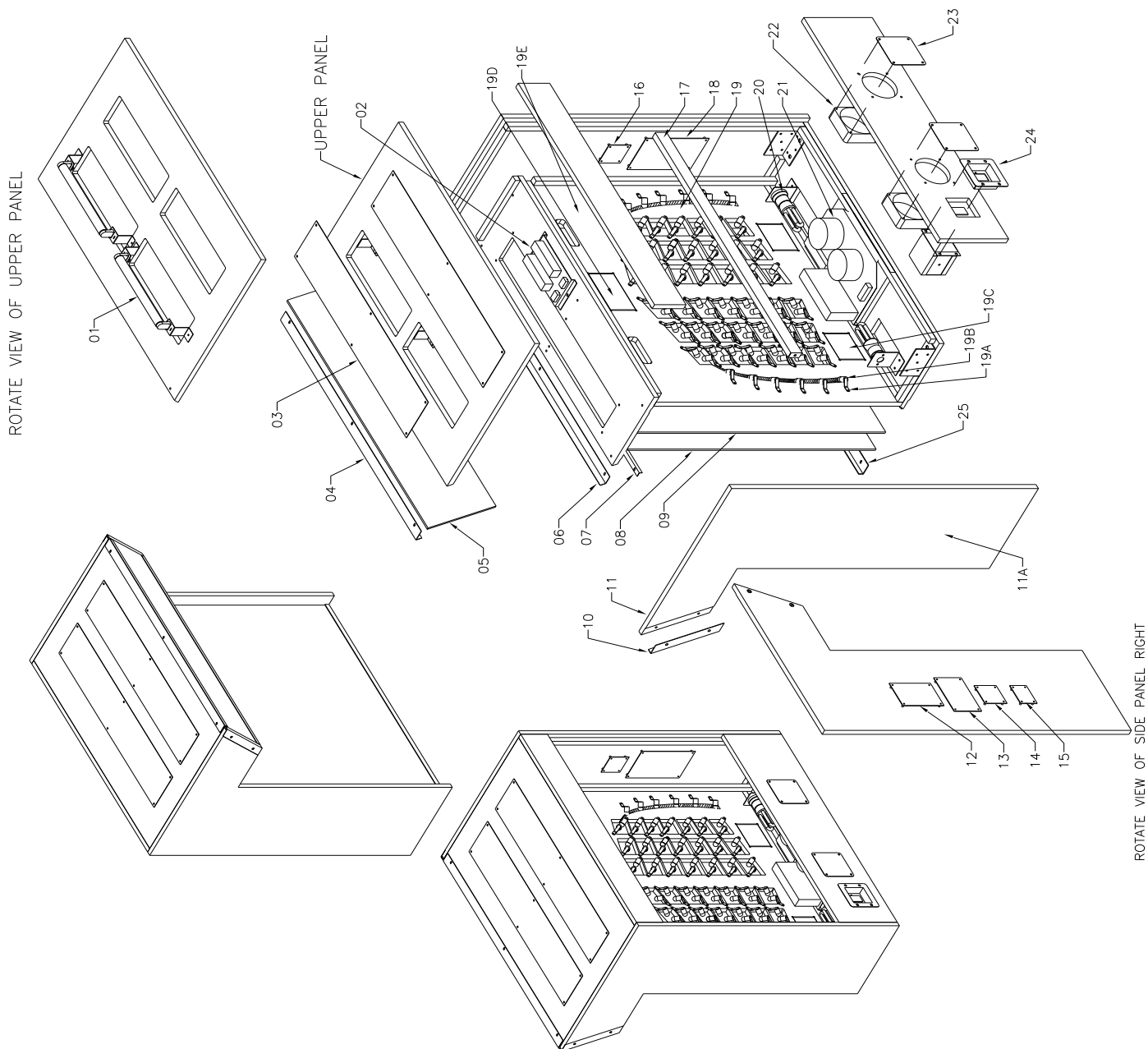


NO	CODE	DESCRIPTION	QTY
26	FF1-FM-010-RO	ACRILIC COVER INNER BRACKET	1
27	HM2560	FIBER GLASS TUBE BLUE COLOUR	1
28	FF A005	TARGET ASSEMBLY	2
29	FF A006	GUN ASSEMBLY	1
30	HM2562	FIBER GLASS MOULD HOUSE FF	1
31A	AT3168	STICKER ACRILIC PLAY INSTRUCTION RIGHT	1
31B	AT3169	STICKER ACRILIC PLAY INSTRUCTION LEFT	1
32	EA0505	SWITCH MEDIUM BLUE ROUND BUTTON	1
33	EA0506	SWITCH MEDIUM YELLOW ROUND BUTTON	1
34	FF A007	CONTROL PANEL BASE	1
35	HM0006	SUPER CLAMP	2
36	FF E003	SERVICE PANEL ASSEMBLY	1
36A	FF1-FM-005-RO	SERVICE PANEL METAL ONLY	1
36B	EA0519	SWITCH SMALL ROUND RED BUTTON	1
36C	EA0520	SWITCH SMALL ROUND GREEN BUTTON	1
36D	EA1252	COIN COUNTER 12V REAR MOUNTING	4
36E	EE0689	POTENSION CARBON DUAL GANG 50KOhm	1
36F	EP0602	KNOB VOLUME	1
—	FF H004	SERVICE PANEL HARNESS	1
37	FF1-FM-043-RO	HOUSING CASH BOX	1
38	FF1-FM-034-RO	TICKET HOLDER	2
39	FF1-FM-042-RO	CASH BOX	1
40	FF A008	FRONT DOOR ASSEMBLY	1
41	FF1-FM-018-RO	FRONT DOOR HINGE	1
42	FF1-FM-0109-RO	FRONT DOOR HINGE BRACKET	1
43	HM0002	RUBBER MACHINE GUIDE	2
44	HM0005	CASTER WHEEL 3" SWIVEL MERK: VERO	2
45	FF A014	SIDE LOWER CABINET WITH STICKER	1R,1L
45A	AT3163	STICKER SIDE RIGHT LOWER CABINET	1
45B	AT3164	STICKER SIDE LEFT LOWER CABINET	1



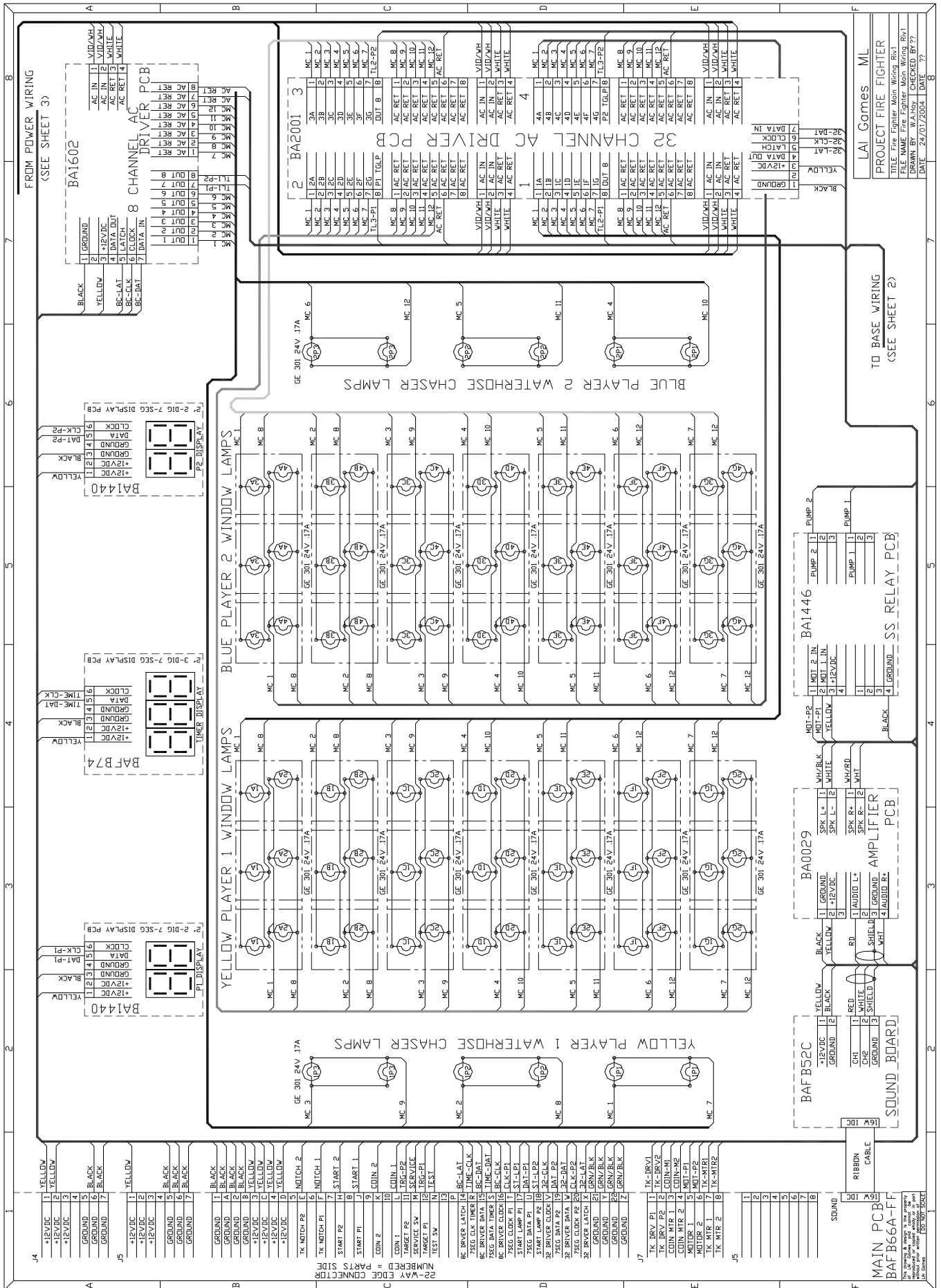


NO	CODE	DESCRIPTION	QTY
01	FF E001	LIGHT HEADER ASSEMBLY	2
01A	FF1-FM-045-R0	NEON BRACKET METAL ONLY	4
01B	EA0205	LAMP NEON 15W COOL WHITE	2
01C	EP0434	END CAP HOLDER MODEL 713 HS	4
02	FF A003	BALLAST ASSEMBLY	1
02A	FF1-FM-002-R0	BALLAST BRACKET METAL ONLY	1
02B	EA1359	BALLAST SP2 15W 120VAC 60Hz	2
02C	EA0311	STARTER BASE FSB-003 UL	2
03	FF1-FM-012-R0	UPPER GRILL	2
04	FF1-FM-023-R0	MYLAR UPPER RETAINER	1
05	HM2510	STICKER ACRILIC EMBOSS TOP HEADER	1
06	FF1-FM-022-R0	MYLAR LOWER RETAINER	1
07	FF1-FM-029-R0	UPPER GLASS RETAINER	1
08	HM 1927	TEMPERED SAFETY GLASS	1
09	AT3165	STICKER ACRILIC FRONT PLAYFIELD	1
10	FF1-FM-027-R0	MYLAR SIDE RETAINER	1R,1L
11	FF A013	SIDE UPPER CABINET WITH STICKER	1R,1L
11A	AT3161	STICKER TOP PANEL R/L	1R,1L
12	BAFB66A	PCB FB66A MPU CONTROLLER BBB LH	1
13	BAFB52C	PCB FB52C 16 Mhz 280 SOUND BOARD	1
14	BA0029	PCB FB29 STEREO AUDIO AMPLIFIER	1
15	BA1446	PCB FB46 2 WAY SOLID STATE RELAY HH	1
16	BAFB78	PCB FB78 8 CHANNEL AC DRIVER	1
17	FF1-FM-011-R0	BACKBRACE	1
18	BA2001	PCB FB47 32 CHANNEL AC DRIVER	1
19	FF A001	FRONT PLAYFIELD ASSEMBLY	1
19A	EA0302	LAMP HOLDER SC BAYONET 14-152F	96
19B	EA0245	LAMP # 1251 28V, 0.23A, C-2F	96
19C	BA1440	PCB FB40 2" 7 Seg. 2 DIGIT DISPLAY	2
19D	BAFB74	PCB FB74 2" 3 DIGIT DISPLAY BBB	1
19E	FF1-FM-014-R0	PANEL UPPER CABINET	1
—	FF H001	FRONT PLAYFIELD HARNESS	1
20	FF A002	DISPLAY LIGHT ASSEMBLY	2
20A	FF1-FM-013-R0	BRACKET FITTING LAMP	2
20B	EA0253	FLOURECENT 120V / 60Hz 20w	2
20C	EP0435	LAMP FITTING HOLDER E26	2
21	FF A004	POWER ASSEMBLY	1
21A	EA1015	POWER SUPPLY +5V 15A +12V 4A -5V 1A	1
21B	EA0822	TRAF0 MULTI TAP / 2 x 11.5 x 15A	2
21C	EA0614	300 VAC/VDC TERMINAL BLOCK	2
21D	EA0042	FUSE BLOCK WITH FUSE	4
21E	FF1-FM-006-R0	BRACKET TRAF0	1
—	FF H002	POWER HARNESS	1
22	EA1371	EXHAUST FAN 4" AC 250 V	2
23	FF1-FM-044-R0	FAN GRILL	2
24	FF E002	DB BOX ASSEMBLY	1
FF E002a		DB BOX METAL ONLY	1
EA1356		BINDING POST	1
EA1358		SPLIT CORE EMI FILTER FOR CE MACHINE	1
EA0649		IEC TYPE NOISE EMI FILTER	1
FF H003		DB BOX HARNESS	1
EA0635		POWER LEAD MOLDED IEC TO 3 PIN USA	1
EA0636		POWER LEAD MOLDED IEC TO 2 PIN INDO	1
EA0637		POWER LEAD MOLDED IEC TO 3 PIN AU	1
EA0639		POWER LEAD MOLDED IEC TO 3 PIN UK	1
FF1-FM-021-R0		LOWER GLASS RETAINER	1



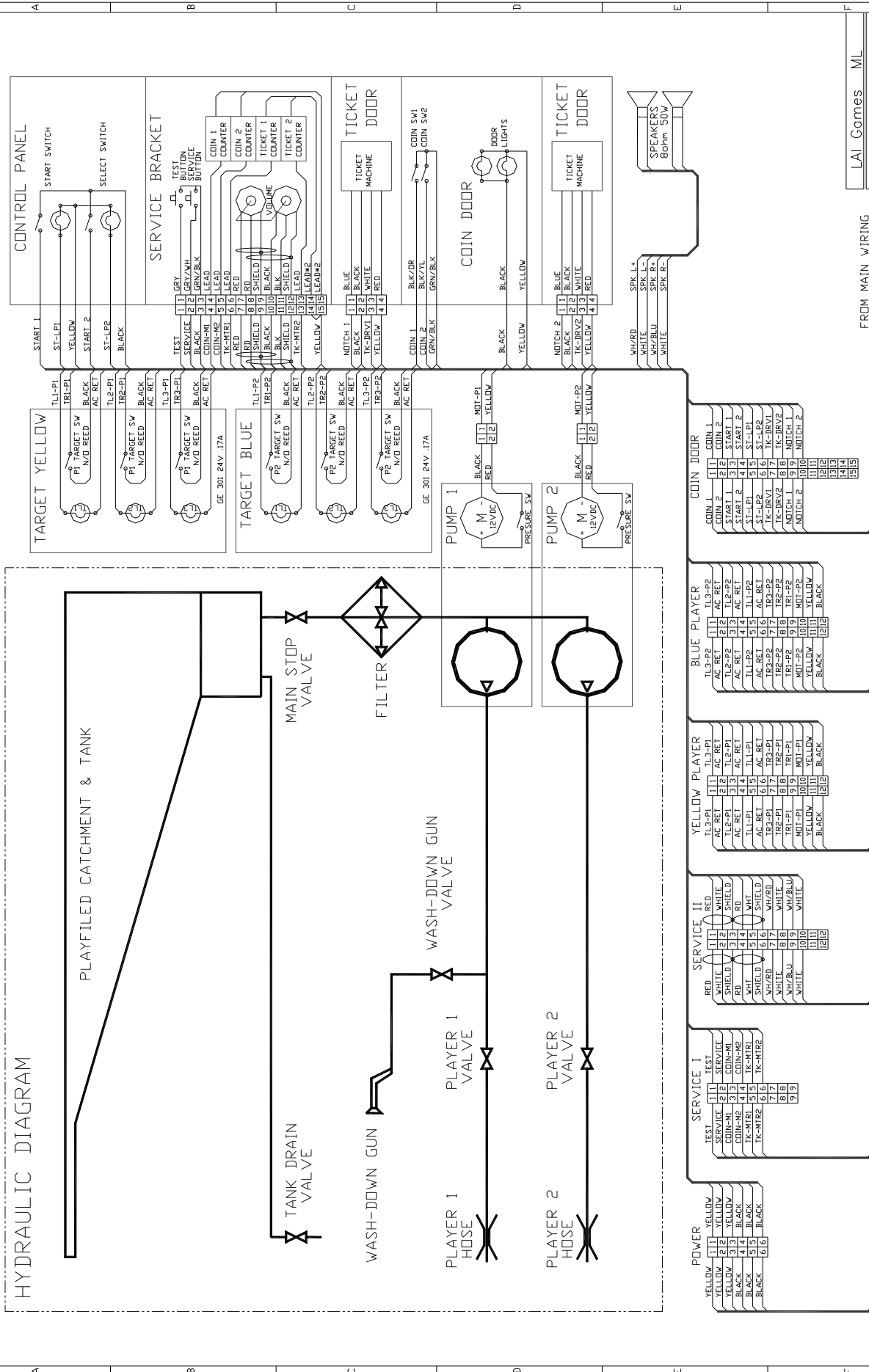


FIREFIGHTER MAIN WIRING DIAGRAM





FIREFIGHTER BASE WIRING DIAGRAM

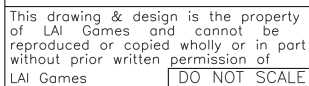


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FROM MAIN WIRING (SEE SHEET 1)

LAI Games ML
PROJECT FIRE FIGHTER
FILE NAME Fire Fighter Base Wiring Rev1
DRAWN BY WAJAYI CHECKED BY <NAME>
DATE 25/01/2014 DATE <DATE>

SHT No. 3



LAI Games		ML
PROJECT FIRE FIGHTER		
TITLE Fire Fighter Power Wiring Riv1		
FILE NAME Fire Fighter Power Wiring Riv1		
DRAWN BY	W.A.Hay	CHECKED BY <NAME>
DATE	12/04/2004	DATE <DATE>

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- (c) Warranty is not transferable with the sale of a machine from one owner to another.

