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OPERATOR'S MANUAL

STOP

► READ THIS MANUAL BEFORE OPERATING THE MACHINE.

► KEEP THIS MANUAL FOR YOUR REFERENCE.

ISO 9001 CERTIFIED ORGANIZATION

URS

UKAS QUALITY MANAGEMENT 043-A

ISO 9001: 2000 Cert No.17460

LAI GAMES

Correspondence regarding this machine should be addressed to your closest ***LAI GAMES*** office, or ***LAI GAMES*** Distributor. For contact details, refer to the back page of this manual.

DISCLAIMER

Please be aware that this software may not be legal to operate in some states and countries. We are providing this software and hardware to you on the understanding that you are installing it as per the regulatory requirements of your location and that you or your company are fully responsible for any legal problems that may arise from operating this version of software and hardware.

LAI GAMES

sales@laigames.com www.laigames.com

Dear Customer,

Keep up-to-date with any new Software release or Service Bulletins for this Game.

Check our Website at www.laigames.com click on Product Support, here you find links to all the Bulletins and Software Updates to keep your game in top working Order.

Thanks,

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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 ^{o}C.*

MACHINE INSTALLATION and INSPECTION

When installing and inspecting ***"Lighthouse"***, 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 on page 44. 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)*

INTRODUCTION

CONGRATULATIONS! You have just bought the ***"Lighthouse".*** Another sensational product from LAI games. This game, based around the popular Timebuster and Sonic Beat prize redemption games, has many new features. Lighthouse features an impressive fiberglass model lighthouse, with a rotating Backlight needle spinner, flash light units and a rotating lighthouse style light. With it's easy Skill based settings, we feel that the Lighthouse will make a great game at any location, on or off site.

I 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 ***"Lighthouse"*** is a one player, prize redemption game, where players attempt to move the lighthouse levels lamps from Level one, past level five and into the win level. If the win level is reached then the player can select a prize to be dispensed.

PACKAGING

DELIVERY

- 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 ***"Lighthouse"*** machine fully assembled on castors
- Keys: 2 × coin door key
  2 × back door key
- Operator's manual
- Quick Guide & CD
- IEC Power Cord (In cash box)
- Spare Parts (In cash box)

SPECIFICATIONS

DIMENSIONS

- Weight: 152 kg (337lb)
- Height: 2000mm (78.5")
- Width: 640mm (25")
- Length: 770mm (30.5")
- Power: Maximum 300 W – (220V @ 1.4 A) (120V @ 2.5 A)
  Average 150 W – (220V @ 0.7 A) (120V @ 1.5 A)

ELECTRIC SUPPLY

- The game has the option to operate on, 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 on page 44. 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

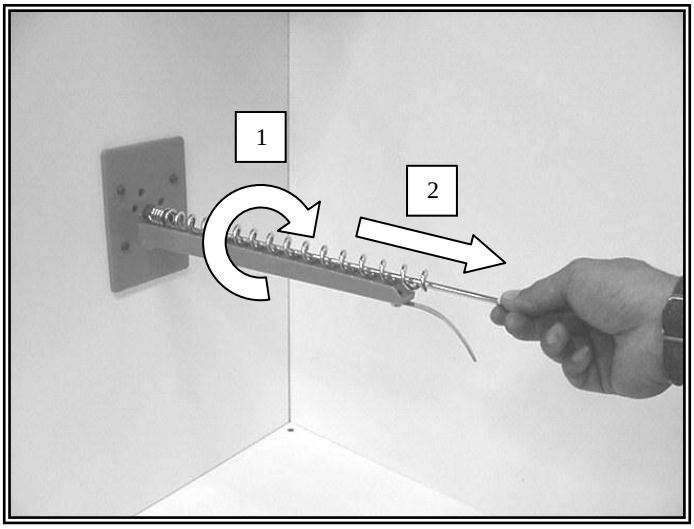
HOW TO PLAY

THE PLAYER'S AIM IS TO REACH THE "WIN" LEVEL ON THE LIGHTHOUSE BY STOPPING THE NEEDLE ON POSITIVE NUMBERS

- Insert coin/s.
- Press the start/stop button to start your game. The needle above the wheel will begin to rotate.
- Press the start/stop button to stop the spinning needle. Try to stop the needle on positive (+) numbers.
- The level lights on the lighthouse will move up for positive (+) numbers and down for negative (-) numbers. Stopping on the asterisk (*) will have an effect that depends on Program setting **P16**.
  (See program settings, page 16 for details).
- Once the Lighthouse has moved up or down, you may have another attempt/s at stopping the needle depending on Program setting **P07**.
  (See program settings, page 16 for details).
- If at any point, the lighthouse level reaches the "WIN" level then the game is over and any remaining attempts are cleared. The player has won the game!
- A prize is then selected using the green step button and then dispensed using the Stop/Start button.

FITTING PRIZES TO THE PRIZE ARM

STEP ONE: Removal of Prize Locking Pin.

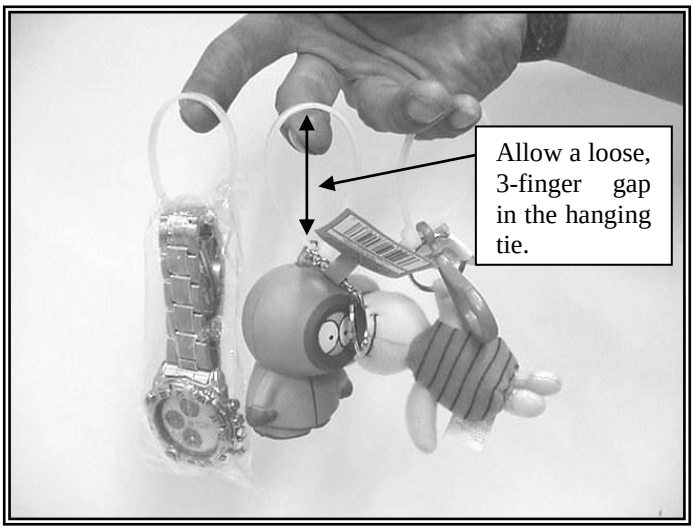


1. Unscrew the Prize Locking pin (**left-hand thread**), by turning it in a clockwise direction.

2. Remove the pin by pulling it all the way out.

*** NOTE! ***
Lighthouse is shipped from the factory with the Locking Pins in the Cashbox.

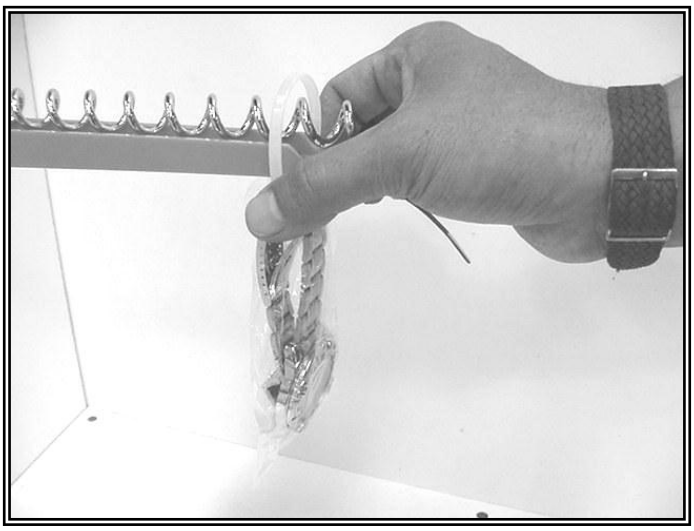
STEP TWO: Attachment of Hanging Ties.



- Attach the prizes securely to the Hanging Ties.

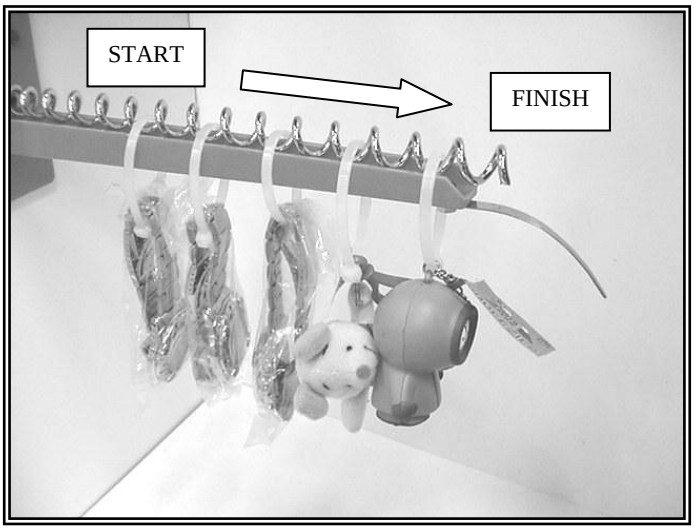
*** NOTE! ***
Be sure to allow a loose, 3-finger gap in the 'hanging tie' to ensure that the 'hanging tie' does not interfere with the operation of the Prize Arm mechanism.

STEP THREE: Loading of Prizes.



- Load the prize arm by sliding the Hanging Tie over the entire arm, as shown making sure that the prizes are facing towards the customer.

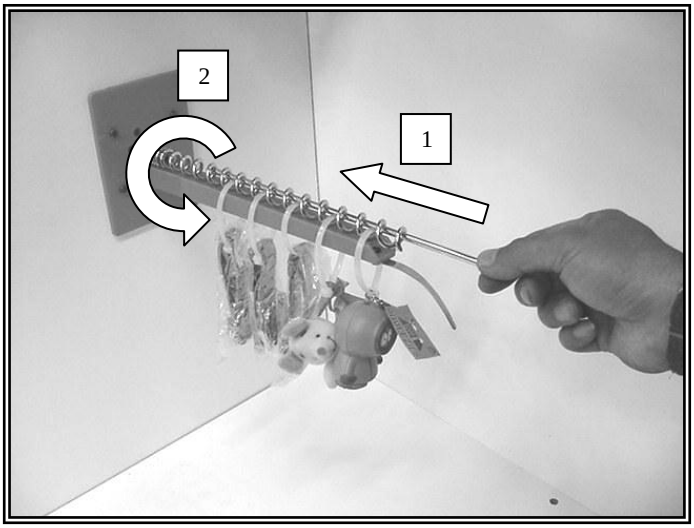
STEP FOUR: Correct positioning of prizes.



- Position the Hanging Ties on the prize arm as shown. Space the prizes apart on the arms so they well presented, looking from the front. Ensure the prizes do not restrict the viewing of the LED display. Do not have the prizes spaced more than 'half an arm' apart, or the prize arm will time out and display error Err4.

*** NOTE! ***
If completely filling the prize arm, start filling the prize arm from the back and work your way towards the front.

STEP FIVE: Reinsertion of Prize Locking Pin.



1. Reinsert the Prize Locking pin by positioning it in the centre of the spiral making sure it **ALWAYS** stays **ABOVE** the hanging ties.

2. Re-fit and tighten the Prize Locking pin (**Left-hand thread**), by turning it in anti-clockwise direction.

STEP SIX: Correct positioning of Prize Locking Pin.

- Ensure the Prize Locking Pin **ALWAYS** remains **ABOVE** the Hanging Ties.

*** NOTE! ***
Correct fitting of the Prize Locking Pin prevents the prizes from falling of the arm by shaking or tilting the cabinet.

*** NOTE! ***
Most small prizes work in this machine but for very small prizes fit them in plastic bag or add a cardboard tag to them to ensure the sensor picks them up when they fall.

PRIZE SELECTION AND PAYOUT ADJUSTMENT

Please read the following guide as a good starting point for setting up of your new ***"Lighthouse"*** machine. By testing different merchandise and fine-tuning the settings you can maximize your game earnings.

*** NOTE! ***

All the following recommendations are based on an approximate payout of **30%.** This payout is recommended for maximum earnings. **30%** payout means that approximately 30% of the game income will be paid out in prizes. **E.g. For every $100 in the cashbox, $30 worth of prizes should be won.**

- The recommended game operation for maximum earnings, are as follows:

PRIZE VALUE – Approximately 200 times the price per play.

PRIZES – Use good quality "*IN DEMAND*" Prizes
Use different types of prizes on each of the 6 Prize Arms to determine which prizes are most desired by the players. You can then use the game audits to check popularity and vary the stock accordingly. Varying the prize stock will also keep players interest in the game.

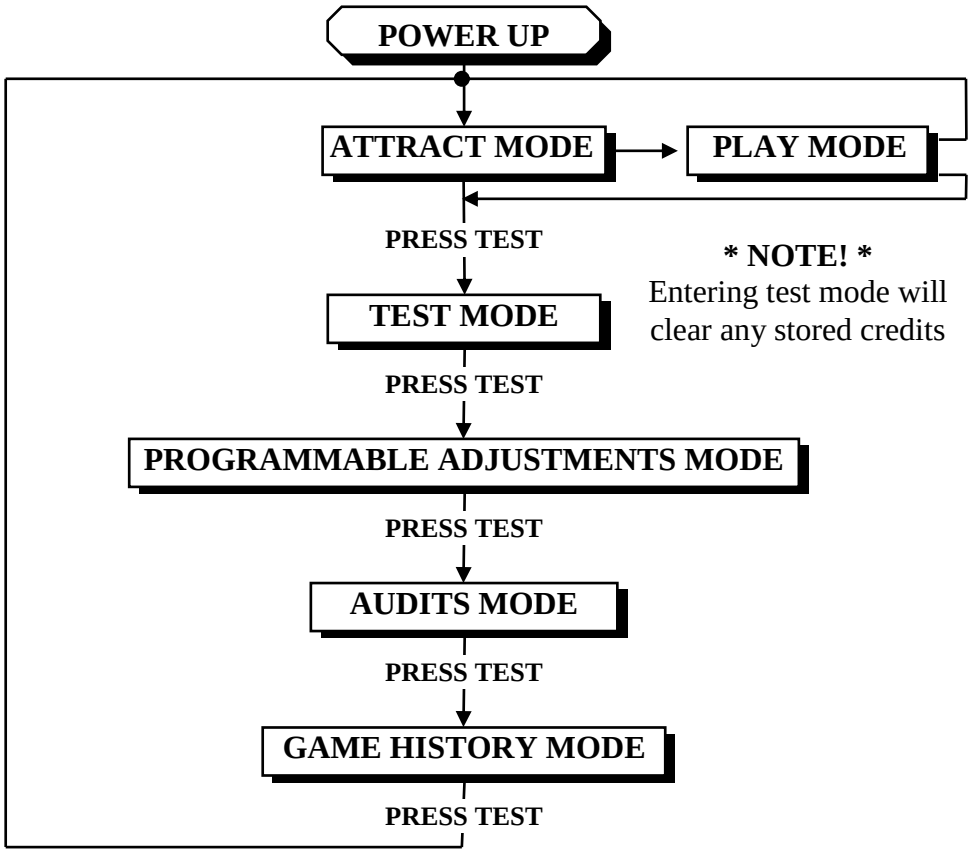
PRIZE PAYOUT QUICK REFERENCE TABLE

PRICE PER PLAY	25¢	50¢	$1.00	$2.00
PRIZE VALUE	$35.00	$75.00	$150.00	$310.00
Approximate number of Games per Win	400	400	400	400
Game Skill Setting (P12)	8	8	8	8

OPERATION

The ***"Lighthouse"*** 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 P10, see page 16 of this manual).

PLAY MODE

- The Lighthouse 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, FrrE will be displayed on the 4-digit LED display.

- To get back to normal game Play mode Switch Off and On the Machine.

TEST MODE

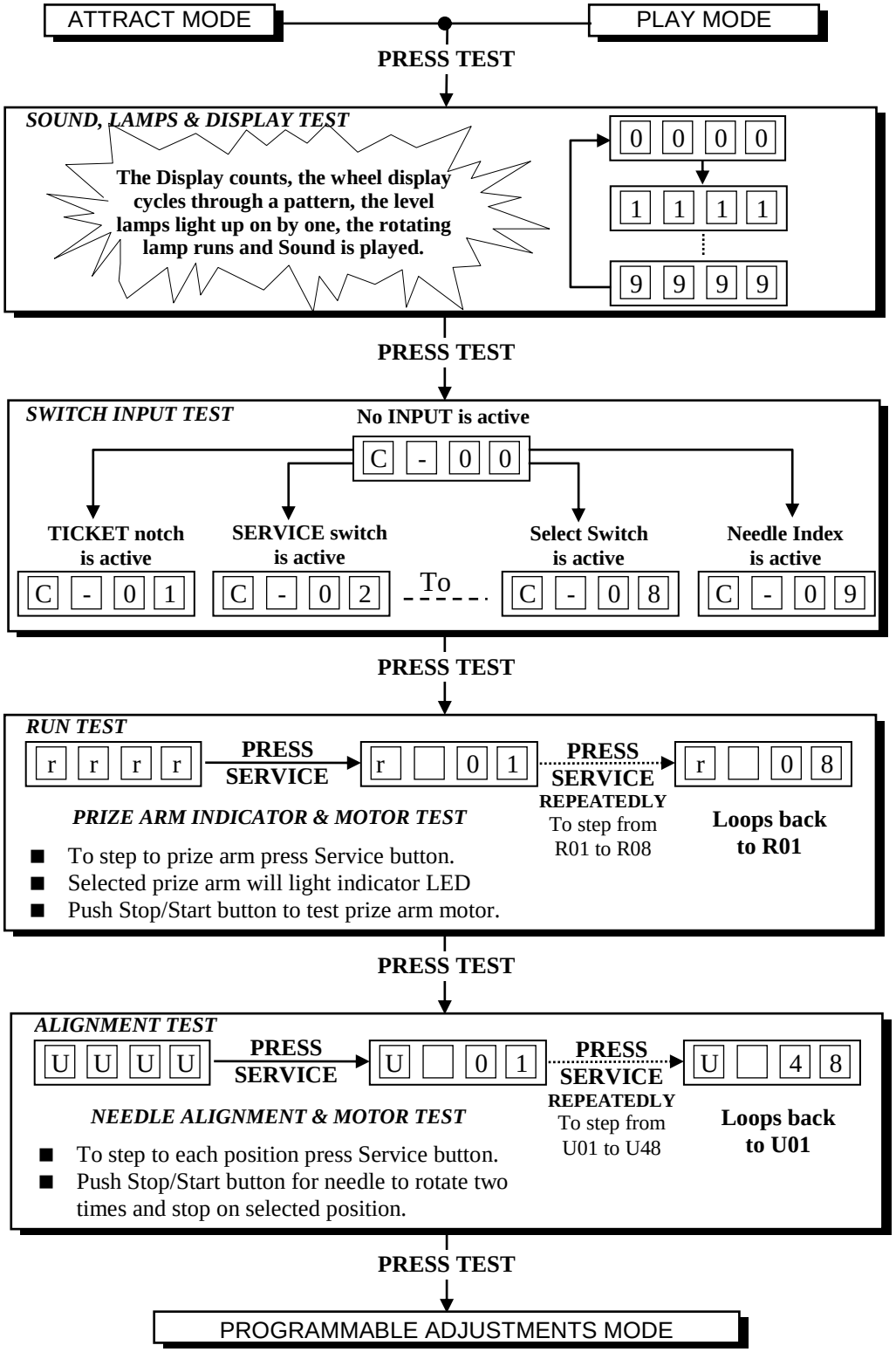
The Lighthouse Test mode has *four test configurations* allowing you to test the function of the Sound, the wheel, LED & Credit Displays, the Game Switches, all game lamps, to test the Prize Arm Lights & motors and test the alignment of the wheel. *(Refer to the Test Mode Diagram on next page).*

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 29).*

*** 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 Prize Arm Indicator LEDs will light up in sequence.
- The Credit display will count from 0000 to 9999 and then repeat.
- The LED Playfield Display panel will run a test pattern sequence.
- The Continue, Start/Stop and Select button lamps will flash on and off

- **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-XX will be displayed on the 4-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 C10 as tabled below. By activating any of the switches, their code will be displayed on the 4-digit display. If no switches are active then C-00 will be displayed.

CODE	DISPLAY	SWITCH FUNCTION	SWITCH LOCATION
C0	C-00	No Switch Active	-
C1	C-01	Ticket Notch is Active	Ticket Door
C2	C-02	Service Switch is Active	Service Bracket
C3	C-03	Start/Stop button is Active	Player Control panel
C4	C-04	Coin 1 Switch is Active	Coin Door
C5	C-05	Coin 2 Switch is Active	Coin Door
C6	C-06	Prize Sensor is Active	Inside Prize Chute
C7	C-07	Tilt Sensor is Active	Inside Rear of Cabinet
C8	C-08	Select Switch is Active	Player Control Panel
C9	C-09	Needle Index is Active	On Compass Wheel

Normal condition for the game is C-00, no switches are active.

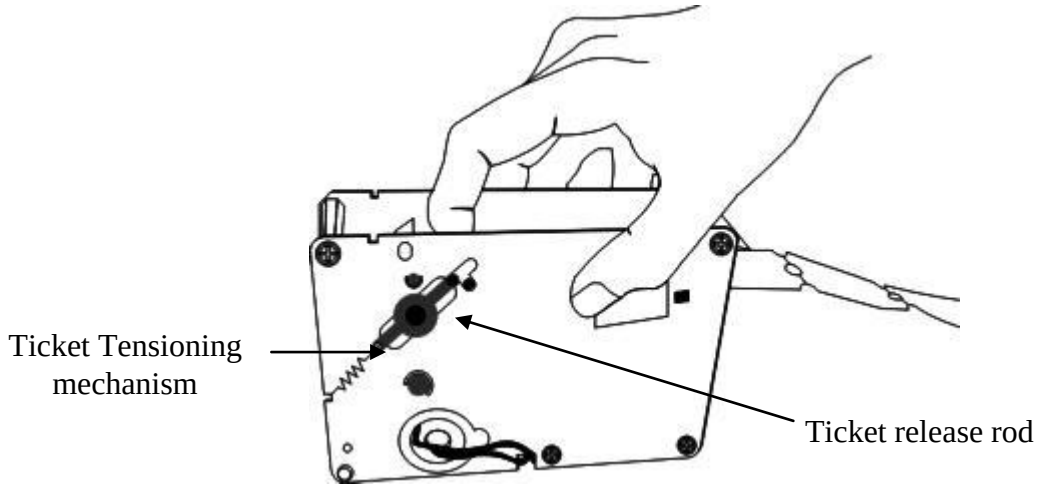
*** NOTE! ***

- 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**

(If optional Ticket or Capsule dispenser is fitted)

The Ticket Notch Switch (C1) 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! ***

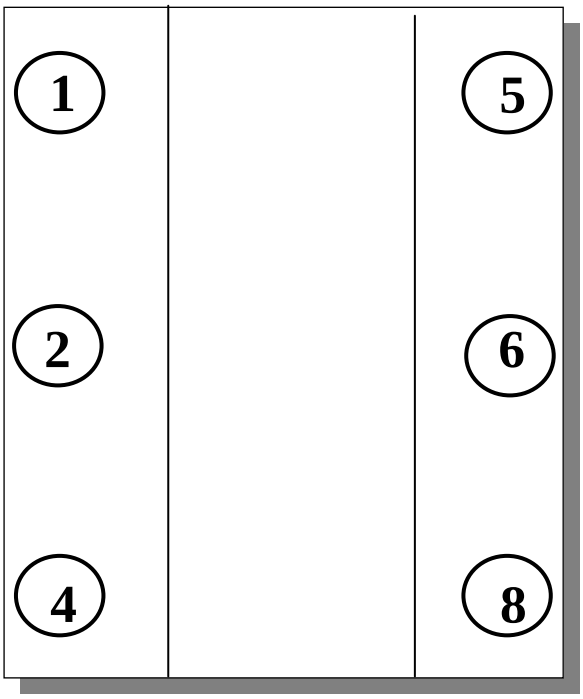
■ For more information on the servicing and testing the ticket or Capsule dispenser please look at the Dispenser Reference guide. (Only supplied if Optional Kit is fitted)

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

RUN TEST

- **ENTER** The Run Test can be entered by pressing the Test button once while in the Switch Test or by pressing the Test button three times while in Attract mode, r r r r will be displayed on the 4-digit display.
- **SELECT** The Service button is pressed once to start the run test mode. The credit display will indicate, r - 0 1 the first Prize Arm and also flashing the indicator LED. The Service button is then pressed again to step through each prize arm, flashing the indicator LED of the current prize arm.
- **RUN** The Start/Stop Button will activate motor of the current selected prize arm as long as the button is held.
- **EXIT** The Run Test is exited into Programmable Adjustments Mode by pressing the Test Button once.

PRIZE ARM LOCATION DIAGRAM



ALIGNMENT TEST

■ BEFORE THE TEST

Before aligning the needle, you should check that **P17**, Needle Adjustment *(See Programmable Adjustments mode 16 for more details)* is set to zero.

■ ENTER

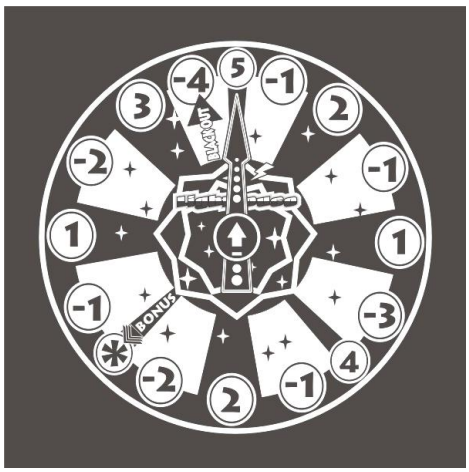
The Alignment test can be entered from the Prize arm, indicator and motor test by pressing the Test button once or by pressing the Test button four times from attract mode. The four-digit LED display will show U U U U.

It is important to align the needle correctly so that the player does not feel "cheated" by the needle pointing to one number, but the lighthouse level lamps actually moving by a different amount. Aligning the needle can easily prevent this.

■ DURING THE TEST

The alignment of the needle to the artwork can be adjusted. Pressing service and the display will step through from **U01** to **U48** and then back to **U48**. These are the 48 different positions of the needle. Pressing the start button will cause the needle to move to the currently selected position.

Choose position U □ 0 1 and press the start button. The needle should stop exactly in the middle of the "5" region on the top of the wheel (as shown). If the needle does not stop exactly in the middle of the 5 region (the top middle of the artwork), loosen the bolts that mount the stepper motor (Accessed from the rear of the machine, see the Parts location Diagram page 34). Then rotate the needle so that it is in the exact center of the number 5 region. Then retighten the mounting bolts of the stepper motor.



In cases where it is impossible for the user to align the needle properly, please use the programmable adjustments setting P17 to adjust the needle via software (See Programmable Adjustments mode page 16 for more details).

*** NOTE! ***

■ In nearly all cases, P 17 should be set to its default value of 0.
Only alter this setting in cases of extreme misalignment!

■ EXIT

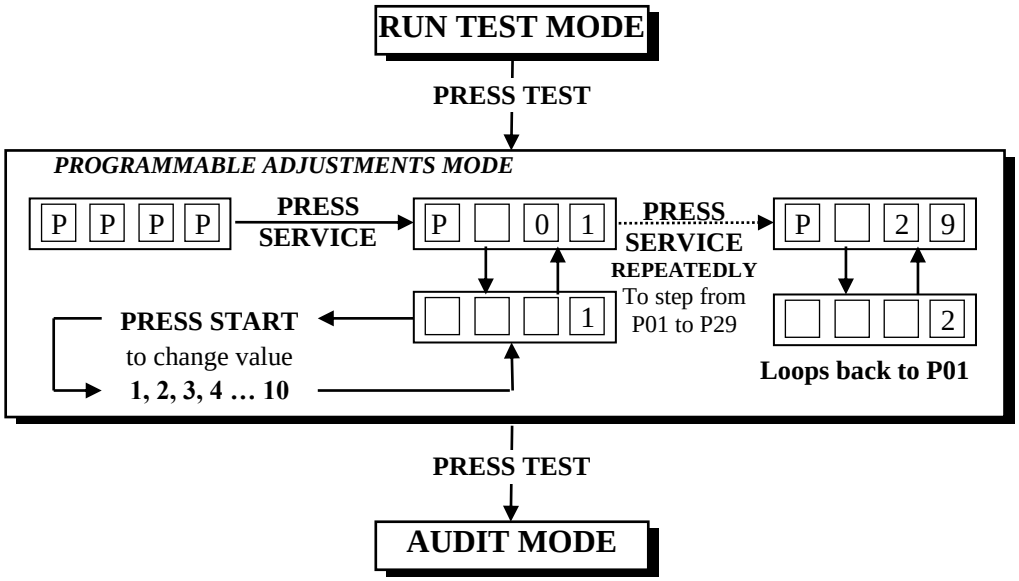
The Alignment test is exited into the Program Settings Modes by pressing the Test button once.

PROGRAMMABLE ADJUSTMENTS MODE

The Lighthouse has twenty nine programmable adjustments that can be changed in this mode. They are P01 to P29 and their codes and values are displayed alternatively during the adjustment procedure.

Example: Code **P01** *(Number of Coins Mech 1)* is displayed as P□01 and its value of **1** as □□□1 on the 4-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, PPPP will be displayed on the 4-digit credit display.

■ **SELECT** The green Service button is pressed to step through each of the adjustment configurations, starting from the PPPP display, P01 being the first step, continuing through to P29, and then looping again from P01 to P29 until the mode is exited.

■ **CHANGE** The Start/Stop 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/Stop 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

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	0 – 10	0, 1, 2 …10	0	Coin Slot 1 1 Bonus Credit every **X** coin
P04	1 – 10	1, 2,3 …10	1	Coin Slot 2 – Coins / Credit
P05	1 – 10	1, 2,3 …10	1	Coin Slot 2 – Games / Credit
P06	0 – 10	0, 1, 2 …10	0	Coin Slot 2 1 Bonus Credit every **X** coin
P07	1 – 10	1, 2, 3…10	3	Number of Attempts / Game
P08	15 – 120	15, 16, 17…120	30	Needle time out
P09	1 - 5	1, 2, 3, 4, 5	4	Needle Speed
P10	ON or OFF	ON or OFF	ON	Attract Sound
P11	ON or OFF	ON or OFF	OFF	Prizes Paid out in Free Play
P12	1 – 10	1, 2, 3…10	8	Skill Setting

P12 – Skill Settings

1 = Easiest	**(Approx. 1 Win in 20 Games)**	6 = Medium to Hard	**(Approx. 1 Win in 200 Games)**
2 = Very Easy	**(Approx. 1 Win in 30 Games)**	7 = Hard	**(Approx. 1 Win in 300 Games)**
3 = Easy	**(Approx. 1 Win in 40 Games)**	8 = Very Hard	**(Approx. 1 Win in 400 Games)**
4 = Easy to Medium	**(Approx. 1 Win in 50 Games)**	9 = Very, Very Hard	**(Approx. 1 Win in 600 Games)**
5 = Medium	**(Approx. 1 Win in 100 Games)**	10 = Hardest	**(Approx. 1 Win in 800 Games)**

P13	0 – 20	0, 1, 2…20	0	Number of Capsules/Mercy Tickets (Used if Optional Dispenser Fitted)
P14	0 – 600 & inf	0, 1,2, …600, inf	inf	Game Reset Time
P15	1 – 5 & re	1, 2, 3, 4, 5 & rE	rE	Level Indicator Level at Power On
P16	1 – 4	1, 2, 3, 4	1	Asterisk Option
P17	-10 – 0 – 10	-10, -9, .. 0, .. 10	0	Needle Adjustment
P18	0…2	0, 1, 2	0	Capsule/Ticket Dispensing Options (Used if Optional Dispenser Fitted)
P19	1, 2	1, 2	1	Game Reset Time Options
P20	ON or OFF	ON or OFF	ON	Prize Arm No.1 Status, ON / OFF
P21	ON or OFF	ON or OFF	ON	Prize Arm No.2 Status, ON / OFF
P22	ON or OFF	ON or OFF	OFF	Prize Arm No.3 Status, ON / OFF
P23	ON or OFF	ON or OFF	ON	Prize Arm No.4 Status, ON / OFF
P24	ON or OFF	ON or OFF	ON	Prize Arm No.5 Status, ON / OFF
P25	ON or OFF	ON or OFF	ON	Prize Arm No.6 Status, ON / OFF
P26	ON or OFF	ON or OFF	OFF	Prize Arm No.7 Status, ON / OFF
P27	ON or OFF	ON or OFF	ON	Prize Arm No.8 Status, ON / OFF
P28	1 – 8	1, 2, 3…8	2	Number of prize arm re-tries
P29	ON or OFF	ON or OFF	ON	Win & Beacon light in Attract Mode

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 1: NUMBER of COINS for BONUS CREDIT**
(Default 00) (Adjustable 0 – 10)

  This variable sets the *number of coins* that need to be inserted into coin mechanism 1 for one bonus credit. It can be set to either of 0, 1, 2… to 10 coins for one bonus credit, (0 = No Bonus).

- **P04=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.

- **P05=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.

- **P06 = COIN MECH 2: NUMBER of COINS for BONUS CREDIT**
(Default 00) (Adjustable 0 – 10)

  This variable sets the *number of coins* that need to be inserted coin mechanism 2 for one bonus credit. It can be set to either of 0, 1, 2… to 10 coins for one bonus credit, (0 = No Bonus).

- **P07 = NUMBER OF ATTEMPTS PER GAME**
(Default 3) (Adjustable 1 – 10)

  This option adjusts the *number of Attempts* per game to stop in the spinning needle on a positive number and win reaching the win level. Reaching the win level will clear any remaining attempts for that game.

- **P08 = NEEDLE TIMEOUT**
(Default 30) (Adjustable 15 – 120)

  This variable sets the maximum *number of seconds* that the needle will spin in game mode. If the player does not press the stop button after **[P08]** seconds, the game will stop itself. The *number of seconds* remaining will be displayed in the credit display.

■ P09= NEEDLE SPEED

(Default 04) (Adjustable 1 – 5)

This variable sets the *speed of the spinning needle* that the player must try to stop on a positive number. 1 is the slowest speed and 5 is the fastest speed, we recommend keeping P09 set to **at least** 4.

■ P10 = 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.

■ P11 = PRIZES IN FREE PLAY MODE

(Default OFF) (Adjustable ON or OFF)

This setting controls whether or not the *game dispenses prizes* in free play mode. The options are **ON** or **OFF**.

■ P12 = SKILL SETTING

(Default 8) (Adjustable 1 – 10)

This option sets the ***Skill level*** for players to reach the WIN level, as listed in the table below. As this is a skill game the win rate is only the approximate rate for each difficulty setting.

SKILL SETTINGS			
1 = Easiest	**(Approx. 1 Win in 20 Games)**	**6 = Medium to Hard**	**(Approx. 1 Win in 200 Games)**
2 = Very Easy	**(Approx. 1 Win in 30 Games)**	**7 = Hard**	**(Approx. 1 Win in 300 Games)**
3 = Easy	**(Approx. 1 Win in 40 Games)**	**8 = Very Hard**	**(Approx. 1 Win in 400 Games)**
4 = Easy to Medium	**(Approx. 1 Win in 50 Games)**	**9 =Very, Very Hard**	**(Approx. 1 Win in 600 Games)**
5 = Medium	**(Approx. 1 Win in 100 Games)**	**10 = Hardest**	**(Approx. 1 Win in 800 Games)**

■ P13 = NUMBER of MERCY TICKETS / CAPSULES ADJUSTMENT

(Default 0) (Adjustable 0 – 20)

This option adjusts the number of mercy tickets or capsules paid out if the optional ticket or capsule dispenser is fitted. See **P18** for setting Mercy System Mode payout options.

*** NOTE! ***

■ If no ticket or capsule dispenser is fitted to the machine, make sure **P13** and **P18** adjustments are set to [0].

■ P14 = GAME RESET TIME

(Default INF) (Adjustable 0 – 600, INF)

This variable sets the *number of seconds* before the current game level is reset. After a game is finished, it holds the current level for P14 seconds, and then resets the level indicator display according to **P19**, Game Reset Time Options. If P14 is set to INF (Infinite) then the game always retains the same level that the last game finished on and never resets.

■ P15 = LEVEL INDICATOR LEVEL at POWER ON

(Default rE) (Adjustable 1 – 5 & rE)

This adjustment allows the *Level Indicator Level* at Power On or a Reset to be adjusted. It can be set to Level 1, Level 2, Level 3, Level 4, Level 5 or Remember (rE) where the game remembers the level from the last game, previous to the Power On or Reset.

■ P16 = ASTERISK OPTION

(Default 1) (Adjustable 1, 2, 3, 4)

This adjustment allows the *reward for stopping the needle on the Asterisk (*)* to be adjusted. It can be set to:

1. Single extra credit
2. Extra single credit and the level indicator increments a level
3. Instant prize win
4. Single extra attempt (Try Again)

■ P17= NEEDLE ADJUSTMENT

(Default 0) (Adjustable 10 to -10)

This adjustment allows the *position of the needle* to be adjusted. This should be kept at zero and the needle position adjusted manually with the Alignment Test (See page 15 for more details) unless the needle is severely misaligned**.**

*** NOTE! ***

■ In nearly all cases, P 17 should be set to its default value of 0. Only alter this setting in cases of extreme misalignment! Please attempt mechanical alignment first before altering this setting. See the Alignment Test mode page 15 for more details on the manual alignment.

■ P18 = MERCY SYSTEM MODE ADJUSTMENT

(Default 0) (Adjustable 0 – 2)

This option adjusts the way that mercy tickets or capsules paid out if the optional ticket or capsule dispenser is fitted. See **P13** for setting the number of mercy tickets or capsules that will be dispensed.

0. Mercy System disabled, no ticket or capsules will be paid. This setting must be used if optional ticket or capsule dispenser is not fitted
1. Mercy tickets / capsules are paid if no Jackpot or Consolation prize is won. Optional ticket / capsule dispenser must be fitted
2. Mercy tickets / capsules are paid on every game credit, regardless if prizes are won or not. Optional ticket / capsule dispenser must be fitted

■ P19=GAME RESET TIME OPTIONS

(Default 1) (Adjustable 1, 2)

This variable sets the *game reset time* options. This controls how the level indicator behaves once the Game Reset Time (P14) has been reached. If P14 is set to INF (Infinite) then this setting is not used. It can be set to:

1. The Level Indicator will reset to the level set on P15, Power On Reset Level Indicator Level.
2. The Level Indicator will reset to level 1.

PRIZE ARM STATUS

Prize Arm Status adjustments P20 to P27 are used to disable Prize Arms that have been removed to allow larger prizes to be dispensed from "Lighthouse". Two mirror blanking plates and four extra prize arm mounting holes have been provided to allow the operator to arrange from one to four prize arm configurations on each side of the LED display. Lighthouse comes with three prize arms installed on each side as a default.

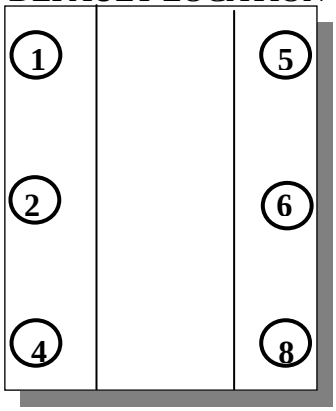
*** NOTE! ***
■ Disabled Prize Arms are unable to be selected by Wining Players

■ P20 to 27 PRIZE ARM No.1 to 8 STATUS

(Adjustable ON or OFF)

These options are for enabling or disabling of Prize Arm 1 to 8. The defaults as in the Table Below.

PRIZE ARM NUMBER & DEFAULT LOCATION



Default Table

P#	Prize Arm No.	Default	P#	Prize Arm No.	Default
P20	Minor Arm 1	ON	P24	Minor Arm 5	ON
P21	Minor Arm 2	ON	P25	Minor Arm 6	ON
P22	Minor Arm 3	OFF	P26	Minor Arm 7	OFF
P23	Minor Arm 4	ON	P27	Minor Arm 8	ON

*** NOTE! ***
■ If all Prize Arms are set to [**OFF**] the error message [**Err6**] will be displayed in the credit display. See Error Codes on page 29

■ P28 = NUMBER OF PRIZE ARM RE-TRIES

(Default 02) (Adjustable 1 – 8)

This option controls the number of retries a user will get when a prize arm times out during the prize selection stage.

*** NOTE! ***
If the machine fails to detect a prize fall after set number of re-tries the error message [**Err4**] will be displayed in the credit display.
See Error Codes on page 29 for more detail.

■ P29 = WIN & BEACON LIGHT IN ATTRACT MODE

(Default ON) (Adjustable ON or OFF)

This adjustment turns the Win and Beacon lights in attract mode **ON** or **OFF**. This adjustment helps prevent player and operator confusion when the Win and Beacon Lights are activated during an attract mode.

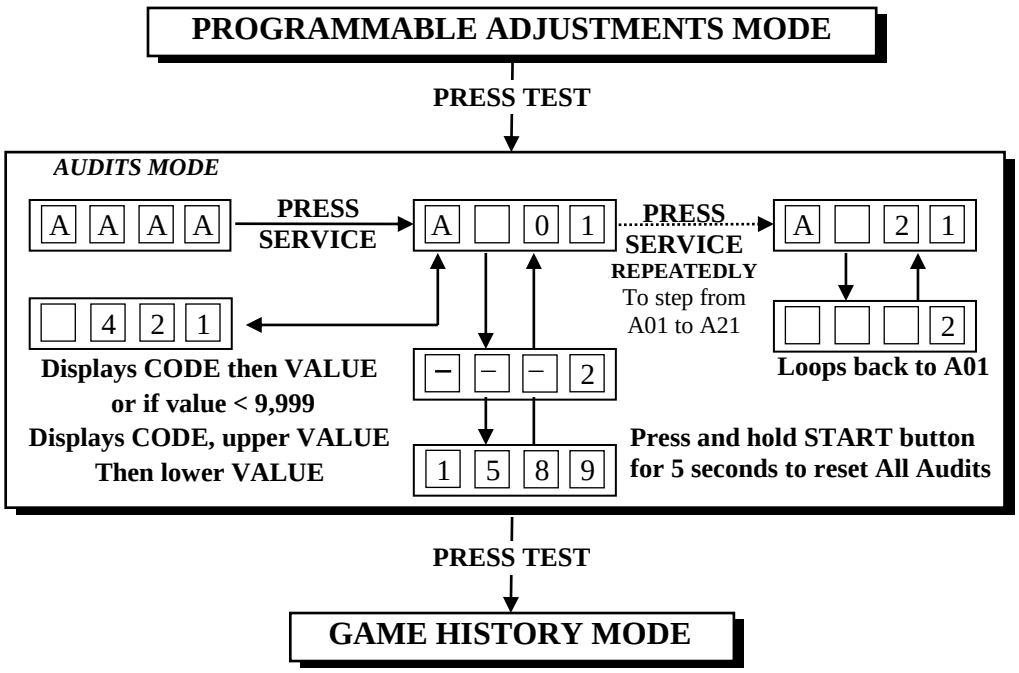
AUDITS MODE

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 Lighthouse has twenty one Audits that can be viewed in this mode. They are A01 to A21 and their codes and values are displayed alternatively during the Audit Mode.

Example: Code **A01** will be displayed as A 0 1 and a value of **421** as 4 2 1 on the 4-digit display.
Or it will display large values like **21589** as - - - 2 and 1 5 8 9 on the 4-digit display.

AUDITS MODE DIAGRAM



*** NOTE! ***

- For Audit values that are greater than 4 digits the audits' values will be displayed in two steps.
- The first number, which is displayed as - - - 2, has leading dash symbols
- The second value is displayed as 1 5 8 9, 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 A will be displayed on the 4-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 A display, A01 being the first step, continuing through to A21, and then looping again from A01 to A21 until the mode is exited.

- **RESET** The entire set of user audits can be reset during any of the audit configurations, by holding the 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-11, 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

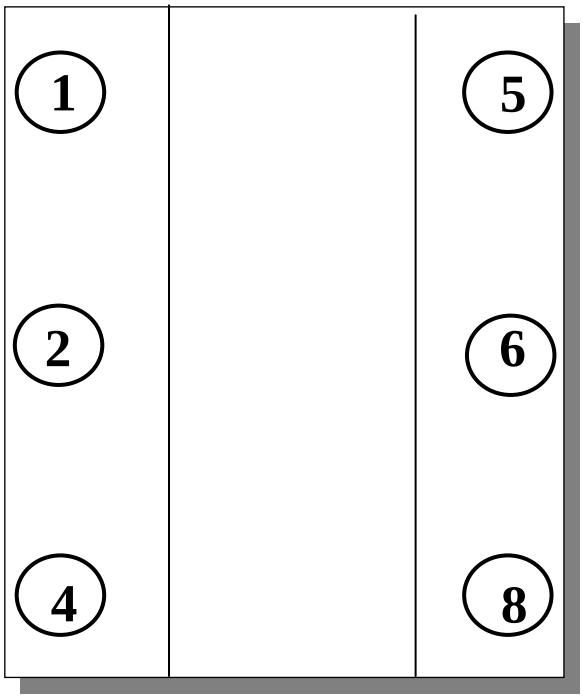
CODE	DISPLAY	AUDIT FUNCTION
A01	A-01	No. of prize selections on Arm 1
A02	A-02	No. of prize selections on Arm 2
A03	A-03	No. of prize selections on Arm 3
A04	A-04	No. of prize selections on Arm 4
A05	A-05	No. of prize selections on Arm 5
A06	A-06	No. of prize selections on Arm 6
A07	A-07	No. of prize selections on Arm 7
A08	A-08	No. of prize selections on Arm 8
A09	A-09	Total No. of games Won
A10	A-10	Total No. of games Lost
A11	A-11	Total No. of games Played
A12	A-12	No. of prize errors on Arm 1
A13	A-13	No. of prize errors on Arm 2
A14	A-14	No. of prize errors on Arm 3
A15	A-15	No. of prize errors on Arm 4
A16	A-16	No. of prize errors on Arm 5
A17	A-17	No. of prize errors on Arm 6
A18	A-18	No. of prize errors on Arm 7
A19	A-19	No. of prize errors on Arm 8
A20	A-20	Total Number of Prize Sensor Errors (Err5)
A21	A-21	Total Number of Prize Sensor Errors (Err8)

AUDITS DETAILED

■ A01 to A08 = TOTAL NUMBER OF PRIZE SELECTIONS on PRIZE ARM POSITION NUMBER 1 to 8

These Audits display the *total number of the prize selections on Prize Arm positions* number 1 through to 8 on this machine since the audits were last cleared.

ARM NUMBERS RELATING TO AUDITS



Default positions of prize arms, Prize arms 3 and 7 not installed.

■ A09 = TOTAL NUMBER OF GAMES WON

This Audit displays the *total number of Games Won* since the audits were last cleared.

■ A10 = TOTAL NUMBER OF GAMES LOST

This Audit displays the *total number Games Lost* since the audits were last cleared.

■ A11 = TOTAL GAMES PLAYED

This Audit displays the *total number of Games Played* since the audits were last cleared.

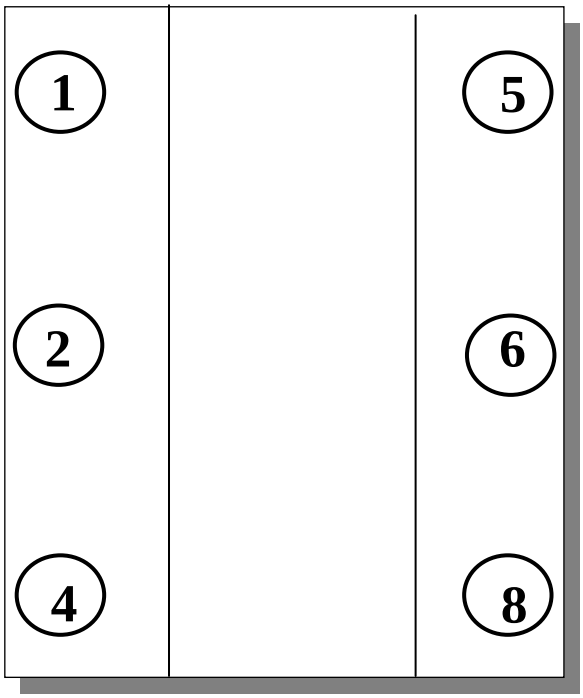
*** NOTE! ***

- **ALL** Audits will **STOP INCREMENTING** when the "Total Number of Games Played", audit A-31, 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.

■ A12 to A19 = TOTAL NUMBER OF PRIZE ERRORS on PRIZE ARM POSITION NUMBER 1 to 8

These Audits display the *total number of the prize errors on Prize Arm positions* number 1 through to 8 on this machine since the audits were last cleared.

ARM NUMBERS RELATING TO AUDITS



Default positions of prize arms, Prize arms 3 and 7 not installed.

■ A20 = TOTAL NUMBER OF PRIZE SENSOR ERRORS (ERR5)

This Audit displays the *total number of prize sensor errors (ERR5)* since the audits were last cleared.

■ A21 = TOTAL NUMBER OF PRIZE SENSOR ERRORS (ERR8)

This Audit displays *total number of prize sensor errors (ERR8)* since the audits were last cleared.

*** NOTE! ***

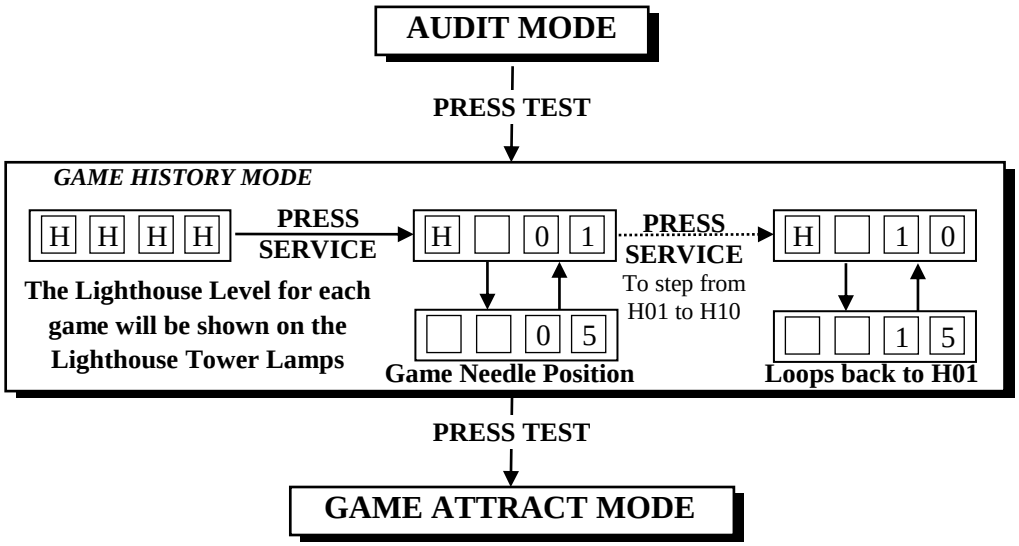
■ LAI Games Customer Support may request from the operator the values of these Manufacturers audits, to help with any service issues.

GAME HISTORY MODE

By using the Game History Mode the operator can view the level of the lighthouse and the position of the needle at the end of each **attempt** for the last ten **attempts**. This enables the operator to verify player win results.

Example: The history results for the last Game Played. H01, the Level Indicator Lamp will light up the level and the 4 digit display will show the number landed on by the needle on the wheel after the last **attempt**

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 4-digit display

GAME HISTORY QUICK REFERENCE TABLE

CODE	DISPLAY	HISTORY RESULTS
H01	H - 0 1	Position Needle Stopped on for Very Last Game Played
H02	H - 0 2	Position Needle Stopped on for 2nd Last Game Played
H03	H - 0 3	Position Needle Stopped on for 3rd Last Game Played
H04	H - 0 4	Position Needle Stopped on for 4th Last Game Played
H05	H - 0 5	Position Needle Stopped on for 5th Last Game Played
H06	H - 0 6	Position Needle Stopped on for 6th Last Game Played
H07	H - 0 7	Position Needle Stopped on for 7th Last Game Played
H08	H - 0 8	Position Needle Stopped on for 8th Last Game Played
H09	H - 0 9	Position Needle Stopped on for 9th Last Game Played
H10	H - 1 0	Position Needle Stopped on for 10th 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 H will be displayed on the 4-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 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 4-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 displays as Err X, where 'X' is the error number, listed as follows:

ERROR CODE QUICK REFERENCE TABLE

CODE	ERROR DESCRIPTION	SOLUTION
Err1	TICKET DISPENSE ERROR Jammed tickets, no tickets or no ticket notch pulse for longer than 3 seconds.	1. If the optional ticket/capsule dispenser is not fitted, make sure P13 and P18 are set to "0". 2. If the optional ticket/capsule dispenser is fitted, clear ticket/capsule dispenser jam or replenish tickets. After this, 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	PRIZE DEPLOYMENT ERROR	Refill Prize Arms or test sensor using switch test.
Err5	PRIZE SENSOR BLOCKED	Clear Blockage from between prize sensors or test sensor using switch test.
Err6	All PRIZE ARMS STATUS are DISABLED.	Check that at lest one Minor Prize Arm (P19 to P24) and one Major Prize Arm (P24 to P28) has been set active Prize Arms ON.
Err7	NEEDLE INDEX SENSOR ERROR	Check that the sensor on the wheel PCB for the needle is plugged in and operating correctly (C-9 in Switch Test)
Err8	PRIZE SENSOR ALIGNMENT	Check all the LEDs on both sensor PCBs for Alignment and test sensor using switch test

TROUBLESHOOTING GAME ERRORS

■ CLEARING GAME ERRORS

Game errors can be cleared, by pushing the test button ONCE. The game will try and check if the error is fixed. If the reason for the error is fixed, the game will continue as normal. If the error is not fixed, the error will remain on the display.

■ Err1 – TICKET ERROR

This can occur if the optional capsule/ticket dispenser is **not** installed and **P13** and **P18** have **not** been set to zero. If your machine does **not** have theses optional fixtures installed, please set **P13** and **P18** to **"0"** *(See Programmable settings mode, page 16 for Details).*

Otherwise, if the optional ticket/capsule dispenser is fitted, this error usually occurs if the game has run out of tickets or there is a ticket/capsule jam. A less common reason is if the game PCB tries to dispense tickets/capsules but doesn't get a notch pulse for approximately three seconds. Use the Switch Test and test the notch pulse by passing a ticket in and out of the notch sensor or manually activating the micro-switch on the capsule dispenser, an active notch will be display as **C1**, *(See Page 12 for Details).*

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

■ 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 23C16 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 massage, 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 – PRIZE DEPLOYMENT ERROR

This error is usually displayed if an empty prize arm is selected by a prize-winner or if the game activates the prize arm and does not sense a prize dropping through the prize sensor. The Err4 error code and the Prize Arm location numbers are displayed alternatively.

The error can also occur if the prize arm **"TIMES OUT"** caused by taking to long to dispense a prize. This can happen if there is more than half a prize arm length between prizes on the prize arm, the prize arm is not turning or the prize sensor is not working.

Test the prize arm function using the Run Test, *(See Page 14 for Details)*. Test the prize sensor using the Switch Test, *(See Page 12 for Details).* Pass your hand through the infrared beams in the prize chute. Blocking the invisible beams should display **C7** in switch test. Removing your hand from the beams should stop **C7** from being displayed.

■ **Err5 – PRIZE SENSOR BLOCKED or PRIZE SENSOR FAULTY**

This error usually occurs if the prize sensor is blocked or a prize is jammed in the prize chute, blocking the infrared beam of the prize sensor for longer then 5 seconds.

The sensor can be tested using the switch test, *(See Page 12 for Details)*. If the sensor is blocked **C7** will be displayed in this test. Clear what ever is blocking the sensor and the error will clear itself.

If you cannot find anything blocking the sensor, there could be faulty infrared sensors or receivers on the prize sensor. The sensor PCB's should be returned to your nearest LAI Games distributor for repair.

The Prize Sensor is designed around 12 pairs of infrared detectors and LEDs. Blocking the infrared path of any one of the 12 beams will trigger a common output. There are 6 orange LEDs on each Sensor PCB to help indicate the active pairs of infrared beams.

■ **Err6 – All PRIZE ARMS STATUS are DISABLED.**

This error will only be displayed if programmable adjustments **P20** to **P27** (Prize Arm Status) are all set to **OFF** (Disabled).

There should be at lest one Prize Arm set to Status to **ON**. Push the test button once to enter directly to **P20** to **P27** in adjustment mode, locate what prize arms need to be active and set that Prize Arm Status to **ON,** *(See Page 16 for Details)*.

■ **Err7– NEEDLE INDEX SENSOR ERROR.**

This error will only be displayed if Needle Index optic sensor on the Wheel PCB is not activating. This error will usually occurs because the metal U bracket, that form part of the needle rotor structure is not bent correctly and is not activating the sensor on the wheel PCB. To check this, remove the wheel and needle mounting from inside the Lighthouse fiberglass model (accessed from the rear).

Check the Compass Wheel PCB to see that the Needle Index arm is passing through the optical sensor. The sensor can be tested using the switch test, *(See Page 12 for Details)*. If the sensor is blocked **C9** will be displayed in this test.

■ **Err8– PRIZE SENSOR ALIGNMENT.**

This error can occur if the sensor output pulses or "flickers" due to miss alignment for more then 20 times every 5 seconds.

The Prize Sensor can be aligned by loosening the five mounting points and adjusting the sensor PCBs to each other. The sensor can be tested using the switch test, *(See Page 12 for Details)*. If the sensor is blocked **C7** will be displayed in this test.

If you cannot find anything, there could be faulty infrared sensors or receivers on the prize sensor. The sensor PCB's should be returned to your nearest LAI Games distributor for repair.

The Prize Sensor is designed around 12 pairs of infrared detectors and LEDs. Blocking the infrared path of any one of the 12 beams will trigger a common output. There are 6 orange LEDs on each Sensor PCB to help indicate the active pairs of infrared beams.

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 Mains voltage AC 40Watt Level Lamps

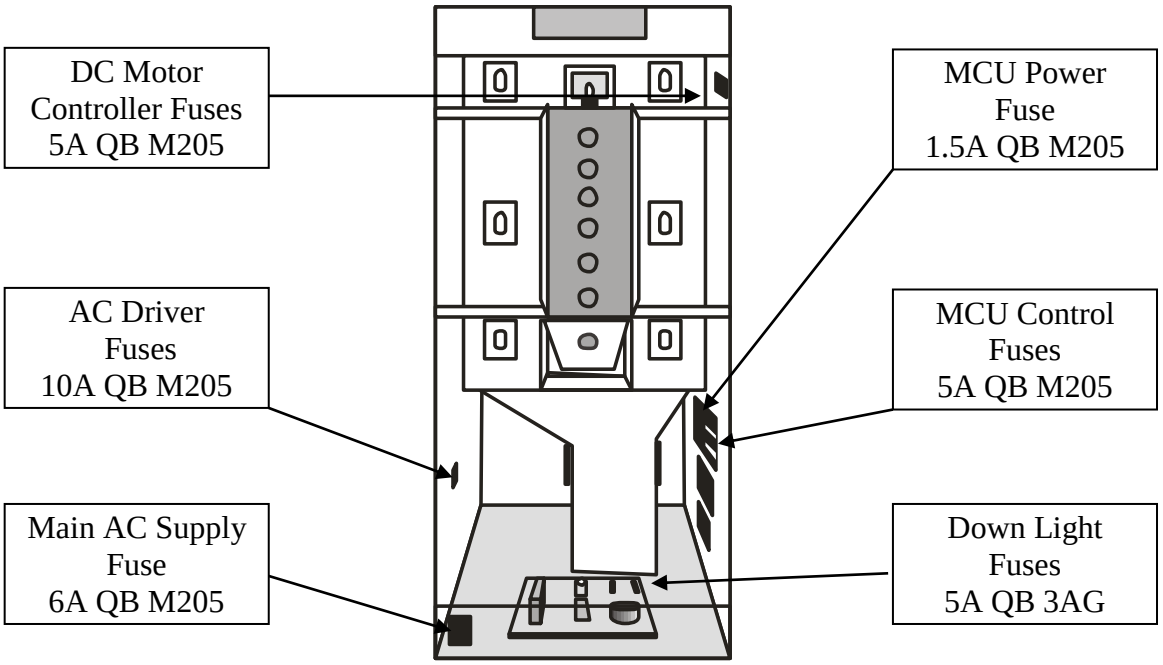
- **DC MOTOR CONTROL FUSE (5AMP FAST BLOW, M205 TYPE)**
  This fuse is for the Tower Beacon Lamp & Motor

- **DOWN LIGHT FUSES (2 x 5 AMP FAST BLOW, 3AG TYPE)**
  These fuses are for the two 12VAC 20W Down Light Lamps

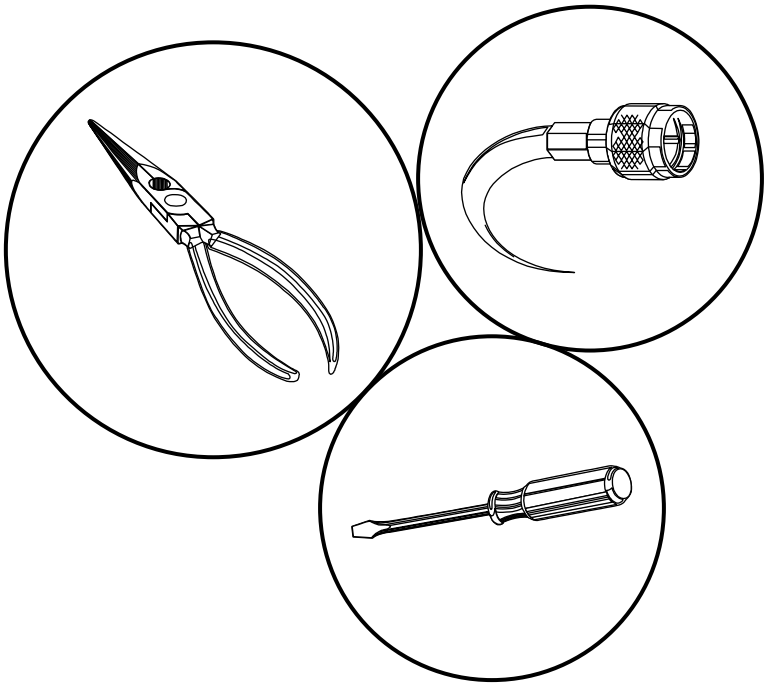
*** CAUTION! ***
Do Not *use any fuse that does not meet the specified rating.*

FUSE LOCATION DIAGRAM

As viewed from rear



SECTION A: SERVICE INSTRUCTIONS



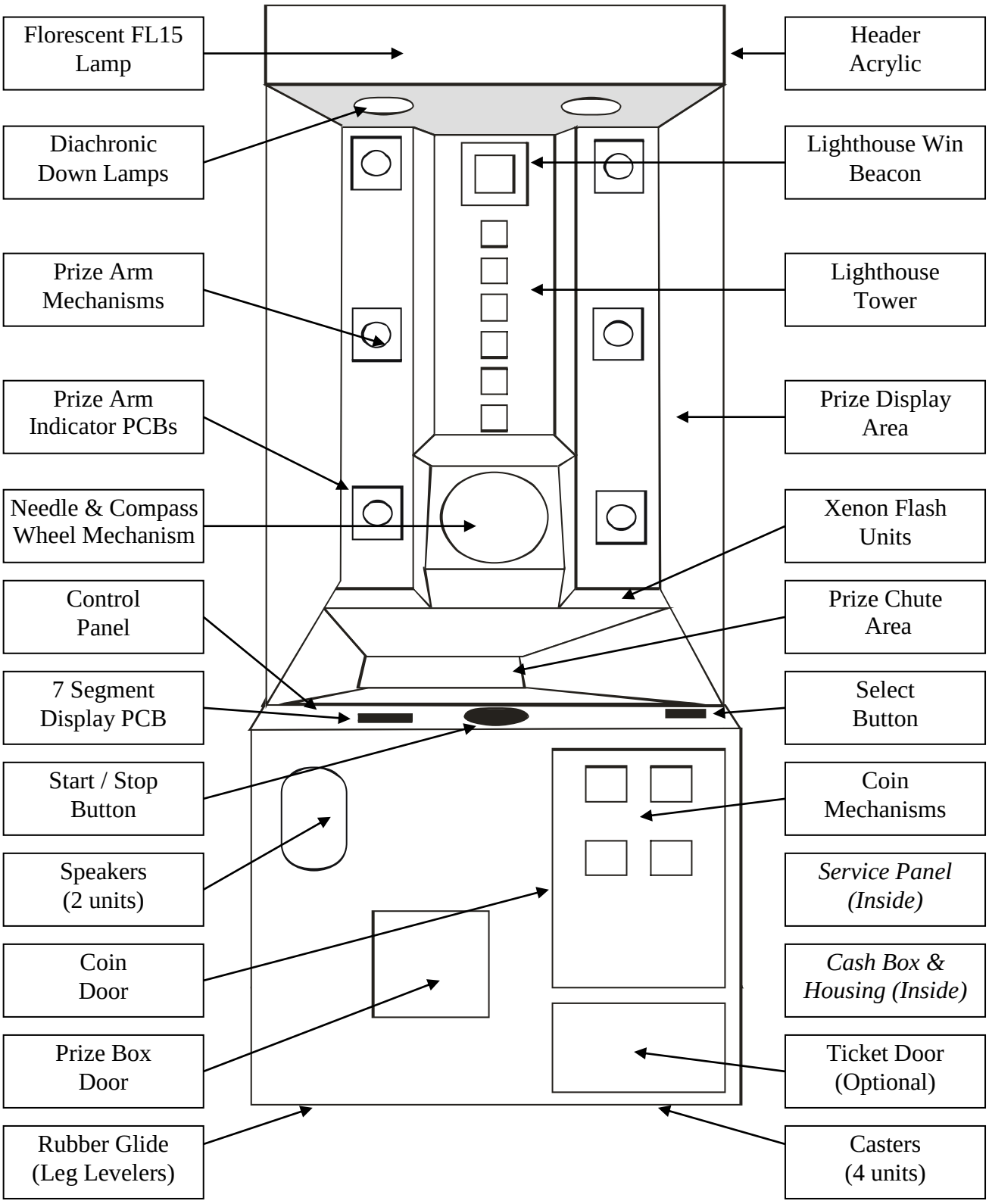
BE SURE TO READ THE FOLLOWING
Carefully before servicing this machine

A

LOCATING AND ACCESSING PARTS

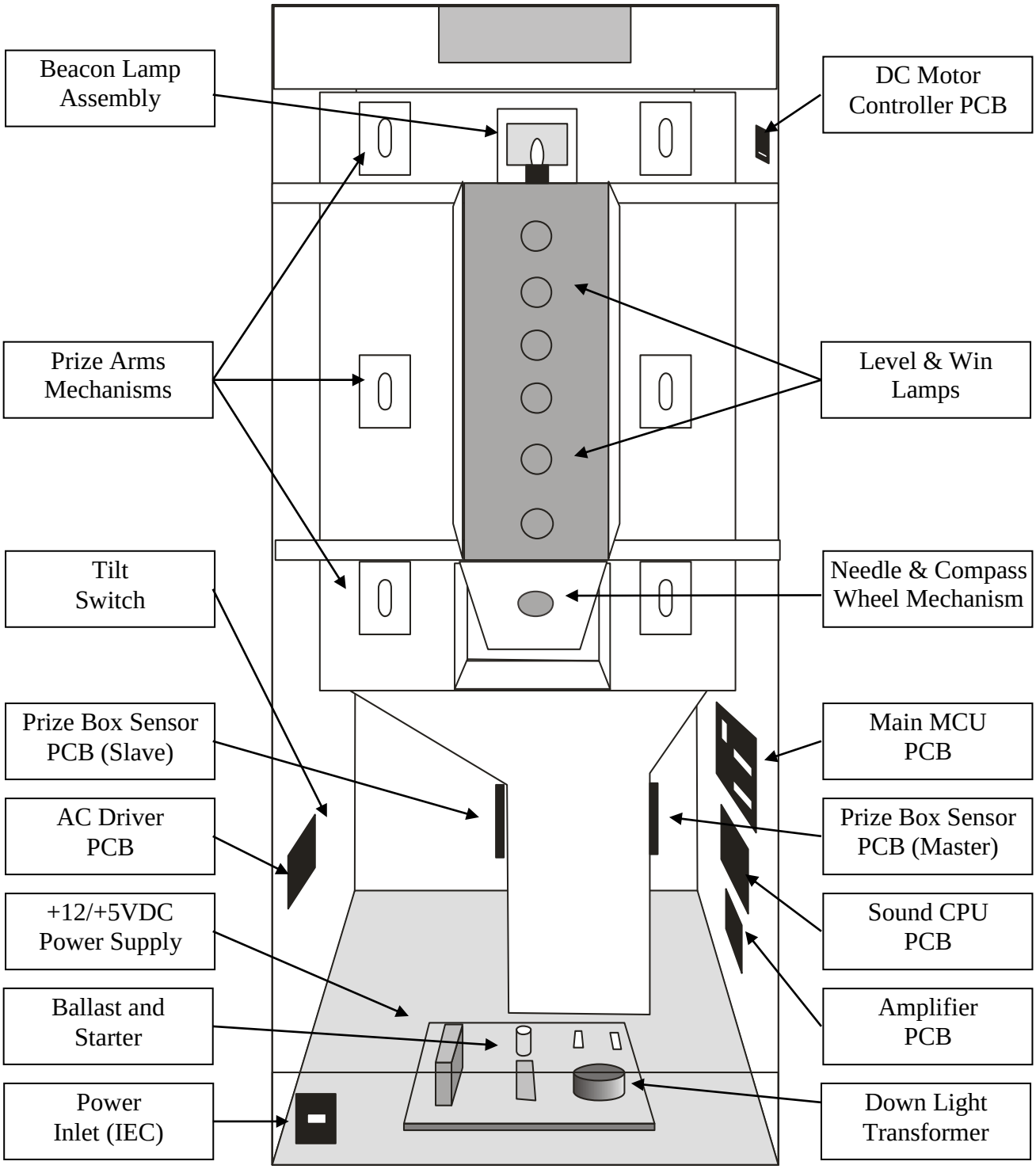
PARTS LOCATION DIAGRAM

As viewed from front



PARTS LOCATION DIAGRAM Cont.

As viewed from rear



PARTS DESCRIPTION

■ COIN MECHANISMS

The coin mechanisms can be accessed inside the Coin door to the right on the front of the machine cabinet.

■ CASH BOX

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

■ TICKET DOOR (Optional)

The ticket mechanism can be accessed inside the ticket door to the lower Right on the front of the machine cabinet.

■ SPEAKERS

Two speakers are located to the left front of the cabinet below the control. Access is through the rear door.

■ GAME CONTROLS:

Located in the center of the machine cabinet. The control panel can be Access through the rear door or via the coin door.

START/STOP BUTTON: The Start button is the large Blue round illuminated button. This button is used to start / stop during a game and for test and program adjustments.

SELECT BUTTON: The Select button is the rectangular illuminated button located at the right-hand side of the control panel. The select button is used to step through the prize arms if a prize is won

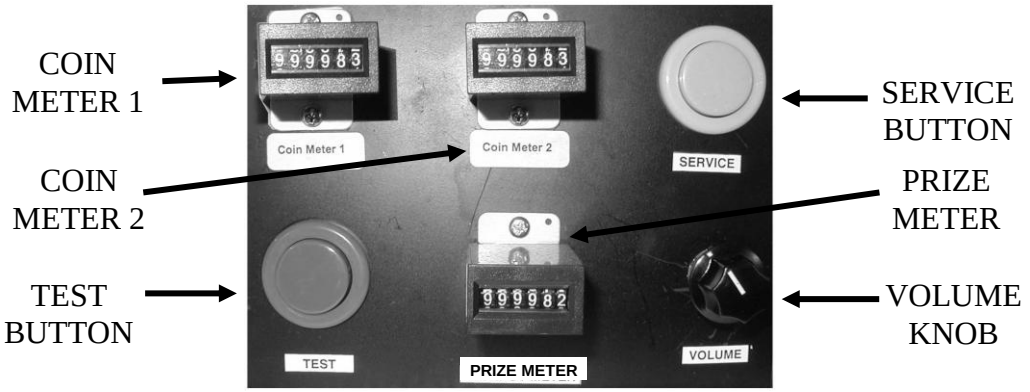
■ SERVICE CONTROLS:

Located on the service panel mounted on top of the cash box and accessed trough 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, page 32 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 page 32 for fuse information.*

■ 7-SEG DISPLAY

There is a 4-digit display located on the control panel. Access is through the back of the machine.

■ PCB's

For location of all game PCB's, refer to the Parts Location diagram page 34 of this manual.

■ POWER SUPPLY

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

■ DOWN LIGHT TRANSFORMER

The down light transformer is located at the back of the cabinet and is accessed from the rear of the machine. It is 2 x 12VAC 5A supply output.

■ TILT SWITCH

The tilt switch is located to the left at the back of the cabinet and is accessed from the rear of the machine.

■ PRIZE ARM MECHANISMS

The prize arm mechanisms are located at the back of the cabinet and are accessed from the rear of the machine.

■ NEEDLE & COMPASS WHEEL MECHANISM

The Needle & Compass Wheel Mechanism is located at the back of the cabinet and is accessed from the rear of the machine.

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.*

■ 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.

■ HEADER LAMPS

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

■ PRIZE DISPLAY DOWN LAMPS

There are 2 x 12V 20W 36Dgr-halogen lamps mounted in the top of the prize display. These are standard dichroic lamps and are accessed from the prize display through the prize display door.

■ LEVEL DISPLAY LAMPS

These are 220 or 120VAC 40Watt filament lamps, in total 6 are installed with one for each level, 1 to 5 and one for the win level. These are accessed from the rear of the machine.

■ BEACON LAMP

This is a U401 BC 12V 23W halogen lamp and accessing the beacon is from the 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 12)*. Replace any globes that are not operational.

INSTRUCTIONS TO FIT 90º T-HANDLE LOCK TO NEW TYPE COIN DOORS

This document is to instruct in the fitting of a 90º T-Handle Lock to the new type coin doors for Lighthouse and Stacker.

How to Identify the New type Coin Doors

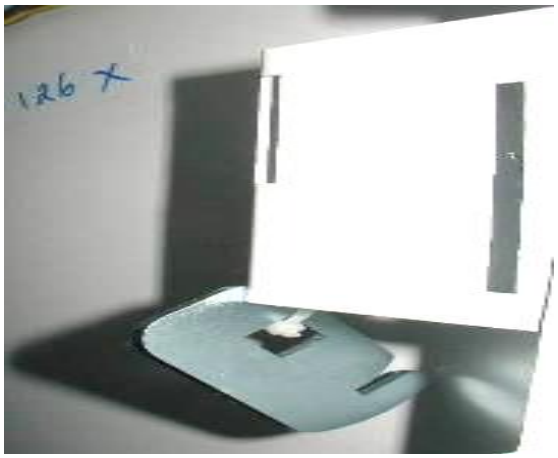
The new type coin doors can be identified by additions both to the door and to the door frame.

The Door will have an external stainless steel plate with two coach bolts as in the photo to the right.

This plate covers the T-Handle hole and provides the two coach bolts for mounting it.

The photo on the left shows the new lock points on the door frame.

Take note of the T-Handle Lock Cam hanging from the lock point metal. If this is missing you will need to order a replacement from your LAI GAMES distributor before fitting a T-Handle Lock.



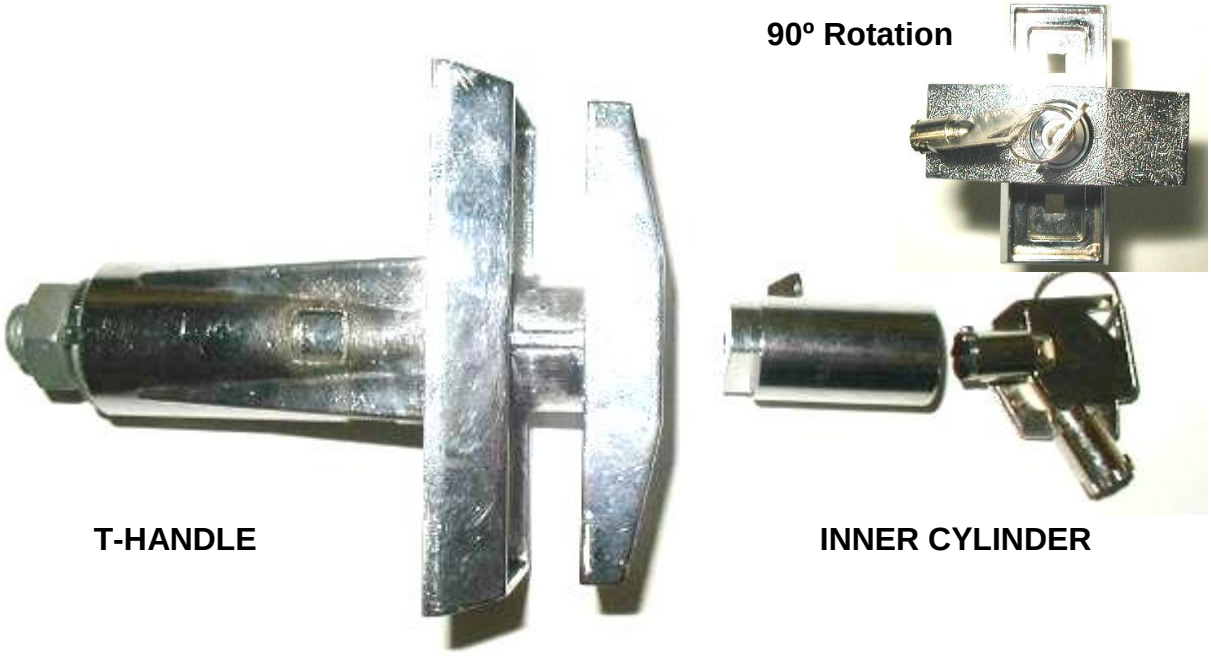
You will only be able to fit T-Handle Locks to machines with these new types of Coin Doors & Frames.
Machines with older door types are unable to use T-Handle Locks.

What is a T-Handle Lock and where to Purchase it

The “Pop-out” T-Handle Locks are commonly found on drink and snack vending machines. They provide a heavy duty tamper proof locking system with replaceable inner cylinders using a variety of key types.

The T-Handle lock to be used with our coin doors is a 90º Cam Rotation type. With the T-Handle popped out it will only turn a quarter turn. The inner cylinder key lock is not normally supplied with the T-Handle and will need to be ordered separately.

For the Inner Cylinder key lock you can order a generic type to fit the T-Handle. And if you are using a Master locking system on your machines, you can check with your lock supplier for a matching inner cylinder.



T-HANDLE **INNER CYLINDER**

You can purchase the T-Handles and Inner Cylinders from:

Company	Betson Imperial Parts Co
Address	1000 Stevenson Court #109 Roselle, IL. 60172 USA
Phone	+1 (630) 295-8595
Fax	+1 (630) 295-9649
Website	http://www.betson.com

Part Number	Part Description
33-0250	Pop Out T-Handle with 90º Cam Rotation
33-0500	Inner Cylinder for Pop Out T-Handle (Keyed Differently)

Removing Original Lock & Cam

Open the Coin Door and remove the cam from the rear of the barrel lock.

Then remove the barrel lock from the front and rear cover plates.

Next undo the two Coach Bolts holding the front and rear cover plates in place.

Save these two Coach Bolts to mount the T-Handle.

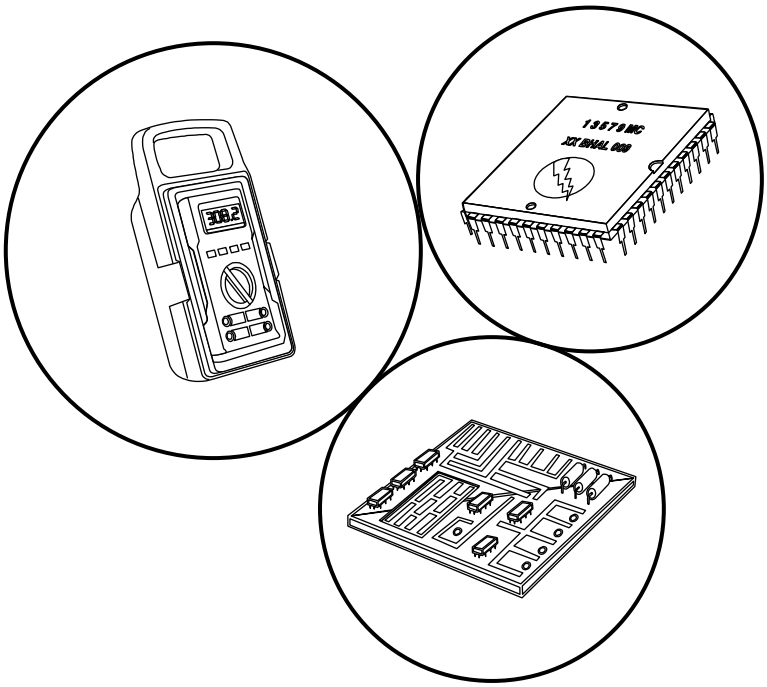
Mounting the T-Handle Lock & Cam

Pop open the assembled T-Handle Lock unit and rotate the handle 90º counter clockwise.
Using the two Coach Bolts you saved, mount the T-Handle onto the Coin Door
Keeping the T-Handle in the unlocked position, mount the Cam vertical on the end of the T-Handle.
Close the Coin Door and turn the T-Handle into the locked position. The Cam should move freely and easily into place.

Remove the Key from the T-Handle and press the handle to lock the Coin Door

Your Machine is now Securely Fitted with a Pop-out T-Handle Lock!

SECTION B: TECHNICAL DETAILS



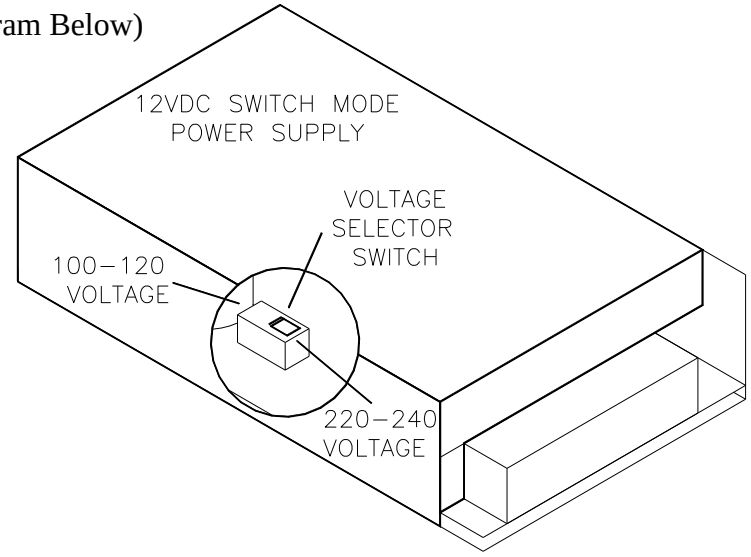
It is advised that anybody using SECTION B for repairing or modifying any of the components of the game should be a qualified technician, having at least a basic knowledge of digital components, integrated circuits and electricity.

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)



■ FLORESCENT TUBE BALLAST AND STARTER

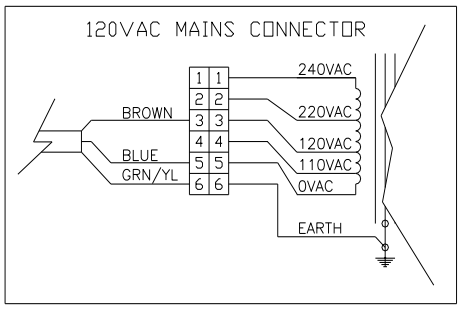
Locate the florescent tube ballast and starter in the back of the cabinet. If unsure of the location of any ballasts or starters, refer to Parts location diagram on page 34 of this manual. These have to be removed and replaced with an equivalent wattage at you local mains voltage level.

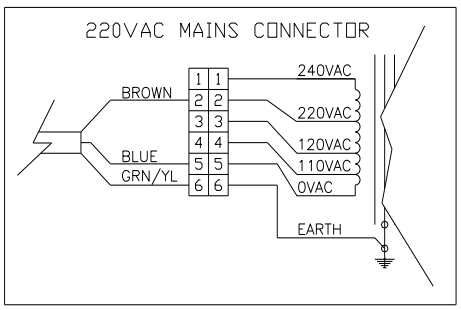
■ TRANSFORMER CONNECTORS

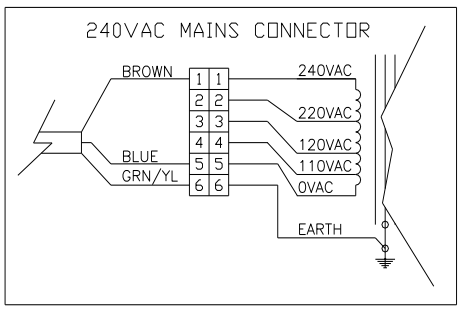
Locate the machine transformer(s) in the base of the cabinet. If unsure of the location of the transformer(s), refer to Parts location diagram on page 34 of this manual. Change the position of the 'ACTIVE' or 'HOT WIRE' input, (marked brown on the diagram), to the position for the desired mains voltage. (See Diagram Below)

6 WAY CONNECTOR PINOUT

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

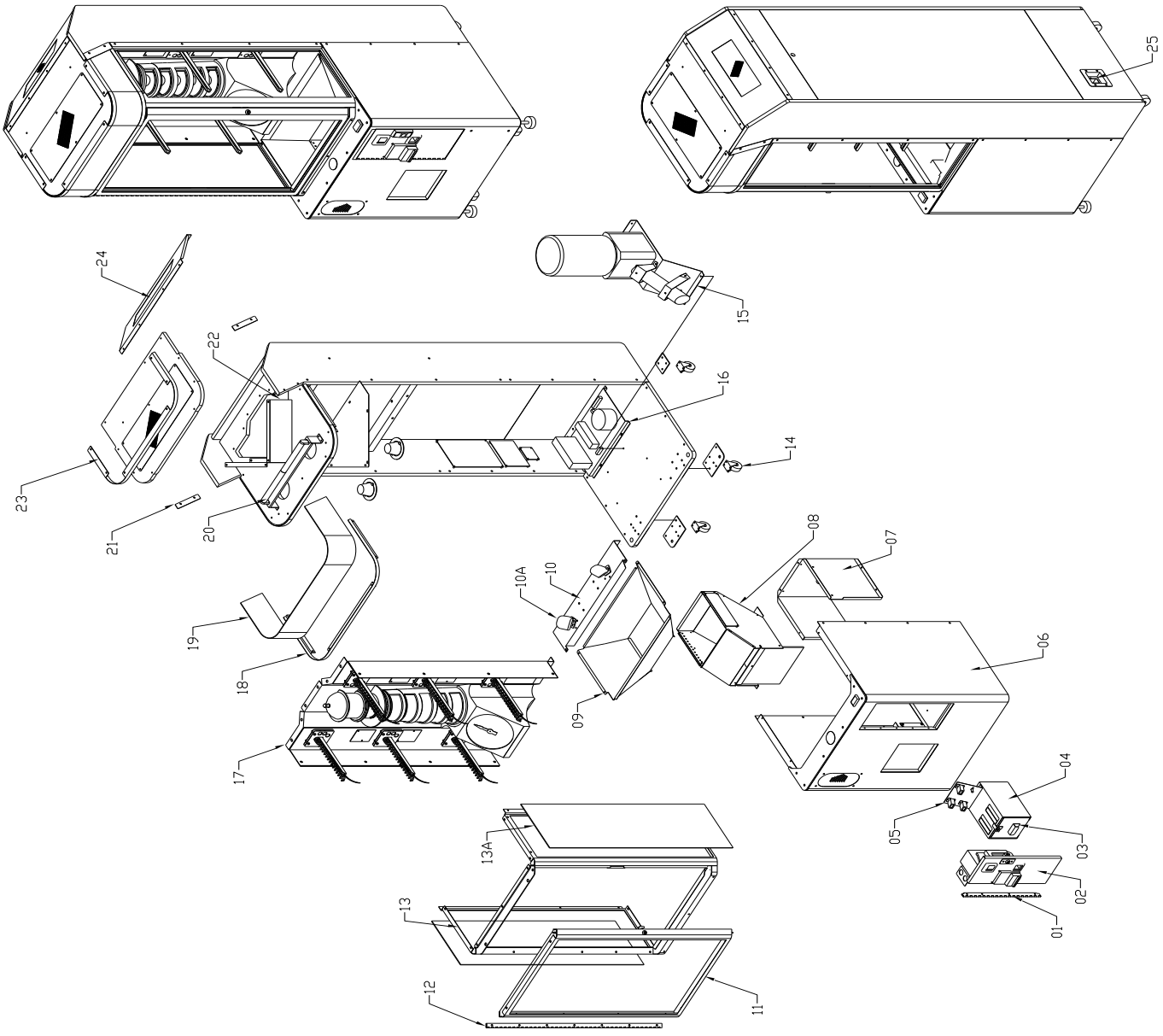






3 D PARTS EXPLODE

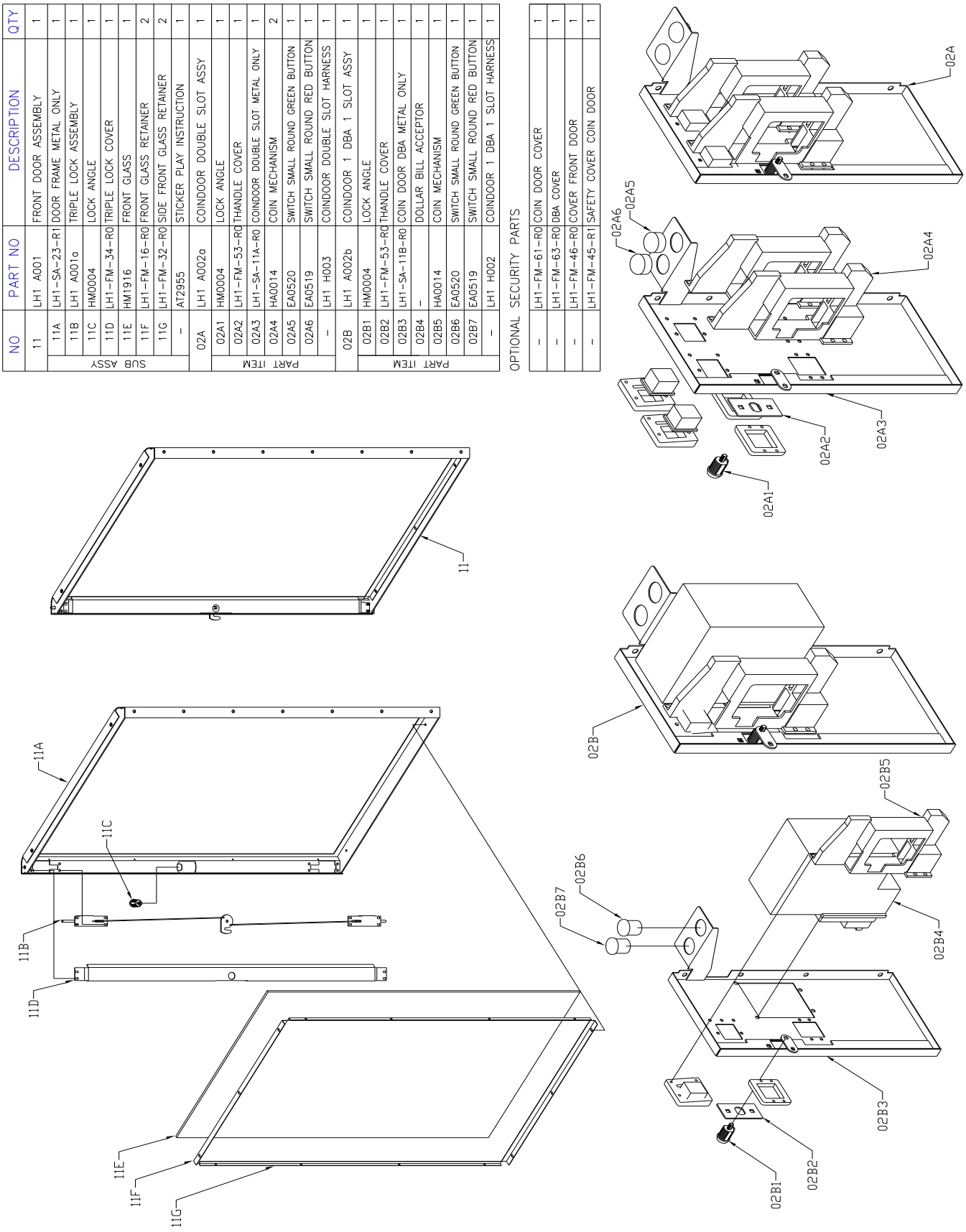
NO	PART NO	DESCRIPTION	QTY
01	LH1-FM-51-R1	COIN DOOR HINGE	1
02	LH1 A0026	COIN DOOR ASSY 1DBA, 1 SLOT	1
03	LH1-SA-59-RO	CASH BOX	1
04	LH1-SA-60-RO	HOUSING CASHBOX	1
05	LH1 E004	COIN COUNTER PANEL ASSEMBLY	1
	LH1-FM-38-RO	COIN COUNTER BRACKET	1
	EA1252	COIN COUNTER 12V REAR MOUNTING	3
	EE0689	POTENSIO CARBON DUAL GANG 50K OHM	1
	EP0602	KNOB VOLUME	1
06	LH1 A003	FRONT PANEL ASSEMBLY	1
	LH1-SA-01-RO	FRONT PANEL METAL ONLY	1
	LH1-FP-06-RO	ACRILLIC CONTROL PANEL	1
	LH1-FM-37-RO	SPEAKER GRILL	1
	EA0556	PUSH BUTTON BLUE	1
	EA0507	SWITCH RECT GREEN BUTTON WITH LAMP	1
	BA2601	PCB51 2cm 4 DIGIT DISPLAY	1
	AT2952	STICKER STK FRONT LOWER CABINET	1
	EA1201	SPEAKER 4" 8 OHM 40 W	2
07	LH1-FM-02-RO	PRIZE RECEIVAL BOX	1
08	LH1 A004	PRIZE BOX ASSEMBLY	1
	LH1 A004a	PRIZE BOX METAL ONLY	1
	BA2602	PCB59a SB PRIZE SENSOR MASTER	1
	BA2603	PCB59b SB PRIZE SENSOR SLAVE	1
	LHC A004b	PRIZE DOOR WITH STICKER	1
09	LH1-SA-09-RO	PRIZE CHUTE ASSEMBLY	1
10	LH1-FM-10-RO	PANEL LOWER RETAINER	1
10A	EA0225	XENON FLASH LAMP MODULES 12VDC	2
11	LH1 A001	FRONT DOOR ASSEMBLY	1
12	LH1-FM-56-RO	FRONT DOOR HINGE	1
13	LH1 A005	SIDE SKIN ASSEMBLY	1
13A	HM1917	SIDE GLASS	2
14	HM0016	CASTOR 2" SWIVEL	4
15	CD A001	CAPSULE DISPENCER ASSEMBLY	1
16	LH1 E002	POWER ASSEMBLY	1
17	LH1 E003	DISPLAY PANEL ASSEMBLY	1
18	LH1-FM-22-RO	MYLAR LOWER BRACKET	1
19	AT2954	ACRILLIC HEADER	1
20	LH1 E006	TOP LIGHT LIGHTHOUSE	1
	EA0205	LAMPU NEON 15W COOL WHITE	1
	EP0434	END CAP HOLDER MODEL 713 HS	2
	LH1-FM-15-RO	TOP UL BRACKET	1
21	LH1-FM-36-RO	MYLAR SIDE RETAINER	2
22	LH1-FM-35-RO	MYLAR DIVIDER	1
23	LH1-FM-21-RO	MYLAR TOP RETAINER	1
24	LH1-SA-19-RO	MYLAR BACK COVER	1
25	LH1 E005	DB BOX ASSEMBLY	1
	LH1 E005a	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
	LH1 H005	DB BOX HARNES	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
-	LH1 H004	MAIN HARNES	1



NO	PART NO	DESCRIPTION	QTY
11	LH1 A001	FRONT DOOR ASSEMBLY	1
11A	LH1-SA-23-R1	DOOR FRAME METAL ONLY	1
11B	LH1 A001a	TRIPLE LOCK ASSEMBLY	1
11C	HM0004	LOCK ANGLE	1
11D	LH1-FM-34-R0	TRIPLE LOCK COVER	1
11E	HM1916	FRONT GLASS	1
11F	LH1-FM-16-R0	FRONT GLASS RETAINER	2
11G	LH1-FM-32-R0	SIDE FRONT GLASS RETAINER	2
–	AT2955	STICKER PLAY INSTRUCTION	1
02A	LH1 A002a	COINDOOR DOUBLE SLOT ASSY	1
02A1	HM0004	LOCK ANGLE	1
02A2	LH1-FM-53-R0	THANDLE COVER	1
02A3	LH1-SA-11A-R0	COINDOOR DOUBLE SLOT METAL ONLY	1
02A4	HA0014	COIN MECHANISM	2
02A5	EA0520	SWITCH SMALL ROUND GREEN BUTTON	1
02A6	EA0519	SWITCH SMALL ROUND RED BUTTON	1
–	LH1 H003	COINDOOR DOUBLE SLOT HARNESS	1
02B	LH1 A002b	COINDOOR 1 DBA 1 SLOT ASSY	1
02B1	HM0004	LOCK ANGLE	1
02B2	LH1-FM-53-R0	THANDLE COVER	1
02B3	LH1-SA-11B-R0	COIN DOOR DBA METAL ONLY	1
02B4	–	DOLLAR BILL ACCEPTOR	1
02B5	HA0014	COIN MECHANISM	1
02B6	EA0520	SWITCH SMALL ROUND GREEN BUTTON	1
02B7	EA0519	SWITCH SMALL ROUND RED BUTTON	1
–	LH1 H002	COINDOOR 1 DBA 1 SLOT HARNESS	1

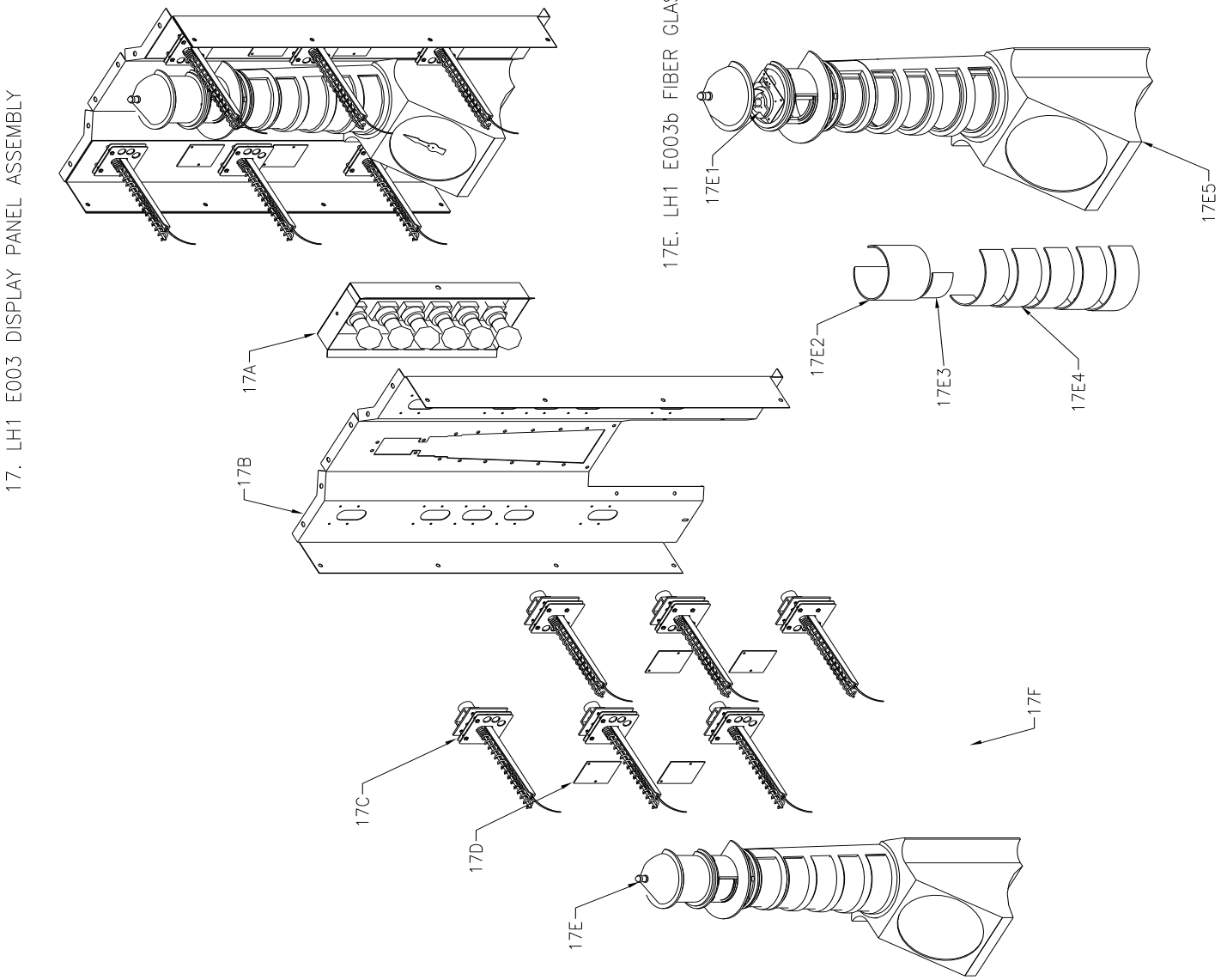
OPTIONAL SECURITY PARTS

–	LH1-FM-61-R0	COIN DOOR COVER	1
–	LH1-FM-63-R0	DBA COVER	1
–	LH1-FM-46-R0	COVER FRONT DOOR	1
–	LH1-FM-45-R1	SAFETY COVER COIN DOOR	1



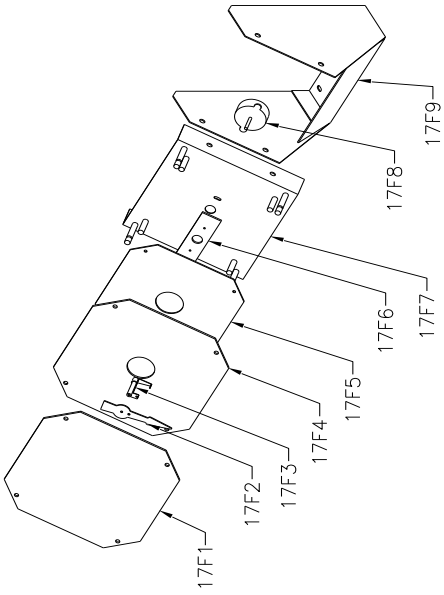
NO	PART NO	DESCRIPTION	QTY
17	LH1 E003	DISPLAY PANEL ASSEMBLY	1
17A	LH1 E003a	PANEL LAMP ASSEMBLY	1
–	LH1-FM-49-RO	PANEL LAMP BRACKET METAL ONLY	1
–	EP0435	LAMP FITTING HOLDER E26 UL	6
–	EA0250	TRAFFIC LAMP E27 40W / 220-250 V	6
–	EA0251	TRAFFIC LAMP E27-ES 40W/110-130V DEST TO USA	6
17B	LH1-FM-20-RO	PANEL METAL ONLY	1
17C	LH1 E001	PRIZE ARM LONG ASSY WITH PCB	6
17D	LH1-FP-009-RO	PRIZE ARM PANEL	4
17E	LH1 E003b	FIBER GLASS ASSEMBLY	1
17E1	EA0537	LAMP LTF 8000 REFLECTOR	1
17E2	LH1-FP-004-RO	ACRILLIC TOP COVER	1
17E3	LH1-FP-006-RO	ACRILLIC WIN COVER	1
17E4	LH1-FP-005-RO	ACRILLIC LEVEL COVER	5
17E5	HM2401	FIBER GLASS MOLDING	1
17F	LH1 E003c	WHEEL ASSEMBLY	1
17F1	LH1-FP-012-RO	ACRILLIC WHEEL PANEL COVER	1
17F2	LH1-FM-71-RO	SPIN WHEEL NEEDLE	1
17F3	LH1-SA-68-R1	STEPPER MOTOR SHAFT	1
17F4	LH1-FP-011-RO	ACRILLIC WHEEL LAMP COVER	1
17F5	BAFB75	PCB FB75 LED WHEEL FOR LIGHTHOUSE	1
17F6	LH1-FM-69-RO	STEPPER MOTOR ADJUSTER	1
17F7	LH1-FM-70-RO	STEPPER MOTOR HOLDER	1
17F8	EA1162	STEPPER MOTOR BY42-4801 60 Ohm 12V	1
17F9	LH1-FM-57-RO	WHEEL BRACKET METAL ONLY	1

17. LH1 E003 DISPLAY PANEL ASSEMBLY

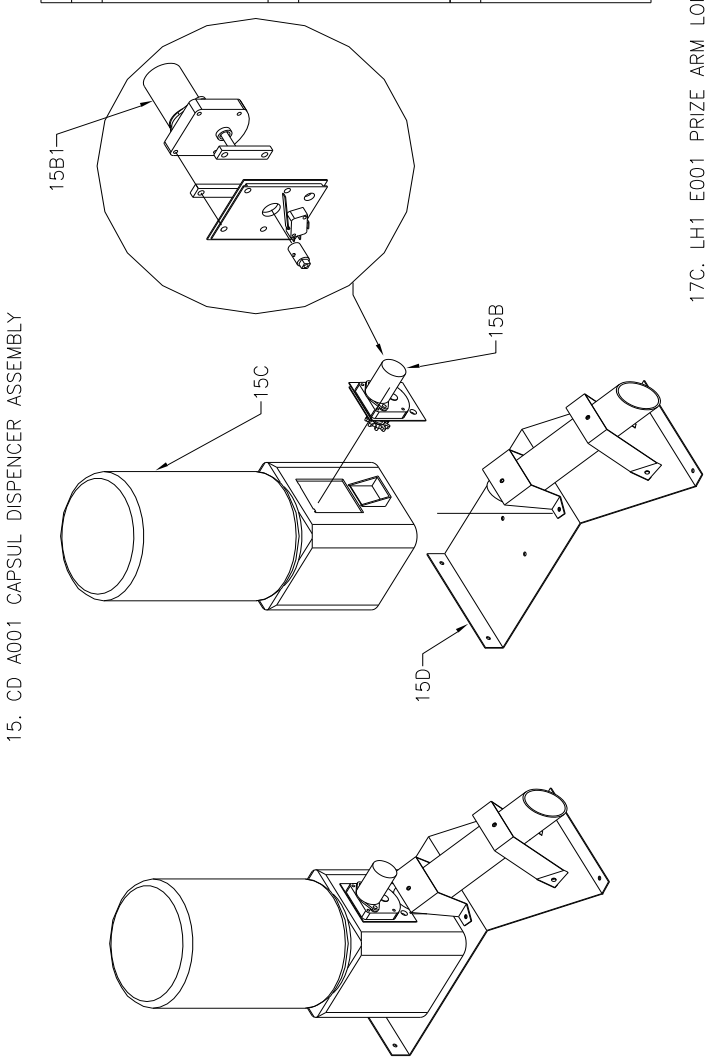


17E. LH1 E003b FIBER GLASS MOULDING

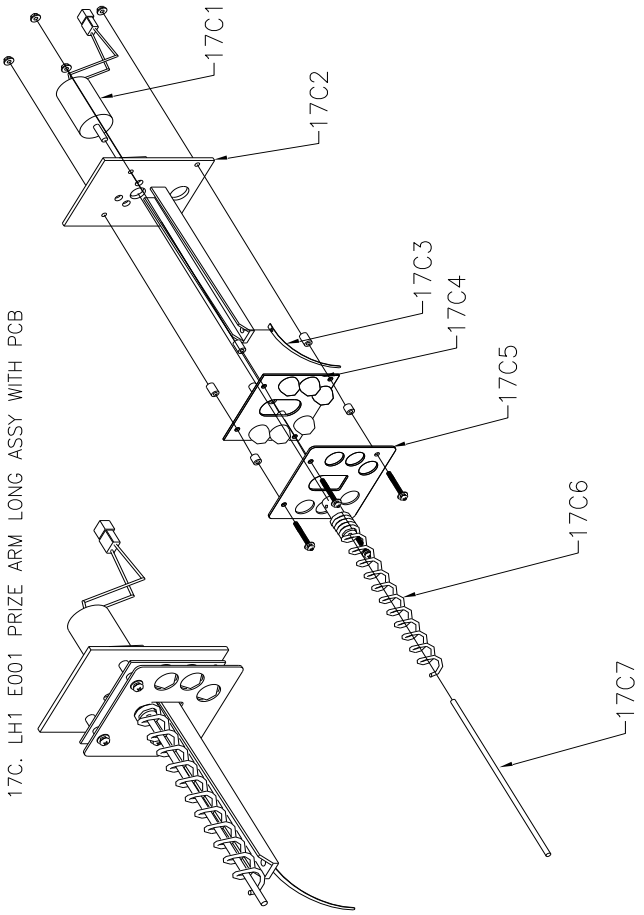
17F. LH1 E003c WHEEL ASSEMBLY



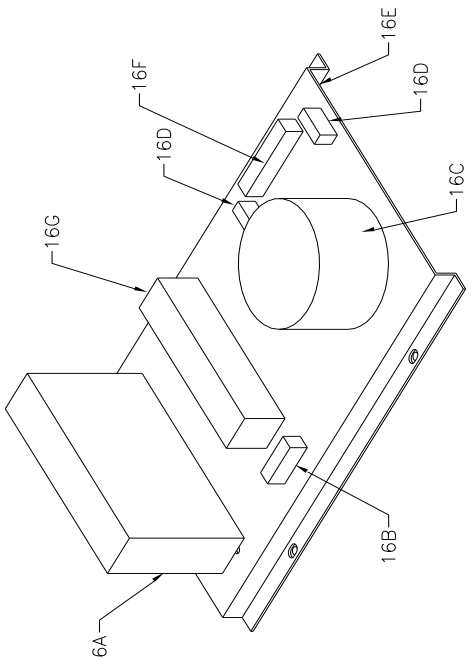
NO		PART NO	DESCRIPTION	QTY
15		CD A001	CAPSUL DISPENCER ASSEMBLY	1 SET
	15A	BA0005	PCB TICKET INTERFACE	1
	15B	CD A001A	MOTOR CAPSULE DISP ASSEMBLY	1 SET
SUB ASSY	15B1	EA1158	MOTOR 8000DC 12VDC 10-18 RPM	1
	15C	HA2073	CAPSULE DISPENCER KITS 1.5" DIA 38mm	1
	15D	CD A001B	CAPSULE DISPENCER BRACKET	1 SET
	–	EA0406	MICROSWITCH LEVER 51	1
	–	LH1 H001	CAPSULE DISPENCER HARNES	1
16		LH1 E002	POWER ASSEMBLY	1 SET
	16A	EA1003	POWER SUPLY +5V 15A +12V 4A -5V 1A	1
	16B	EA0311	STARTER BASE UL	1
	16C	EA0815	TRAFORMER WITH CONECTOR	1
PART ITEM	16D	EA0042	FUSE HOLDER	2
	16E	LH1-FM-39-RO	TRAFO BRACKET	1
	16F	EA0614	TERMINAL BLOCK UL	1
	16G	EA1359	BALLAST 240V, 15W (OPTIONAL FOR USA)	1
	–	LH1 E007	POWER HARNESS	1
17		LH1 E001	PRIZE ARM LONG ASSY WITH PCB	1 SET
	–	EA1155A	PRIZE ARM LONG ASSY WITHOUT PCB	1
	17C1	EA1155C	12VDC MOTOR JM 300-3259	1
	17C2	EA1155B	PRIZE DISP ARM SILVER PLASTIC ONLY	1
	17C3	EA1155E	PRIZE DISP ARM TONGUE SLIDE	1
PART ITEM	17C4	BAFB77a	PCB FB77A PRIZE ARM	1
	17C5	LH1-FP-002-RO	MIRROR LED PANEL	1
	17C6	EA1155F	PRIZE DISP ARM SPIRAL, 16.5 +/-1.5 ROT	1
	17C7	EA1155D	PRIZE DISP ARM LOCKING PIN LENGHT:28 CM	1
	–	A12957	STICKER	1



15. CD A001 CAPSUL DISPENCER ASSEMBLY

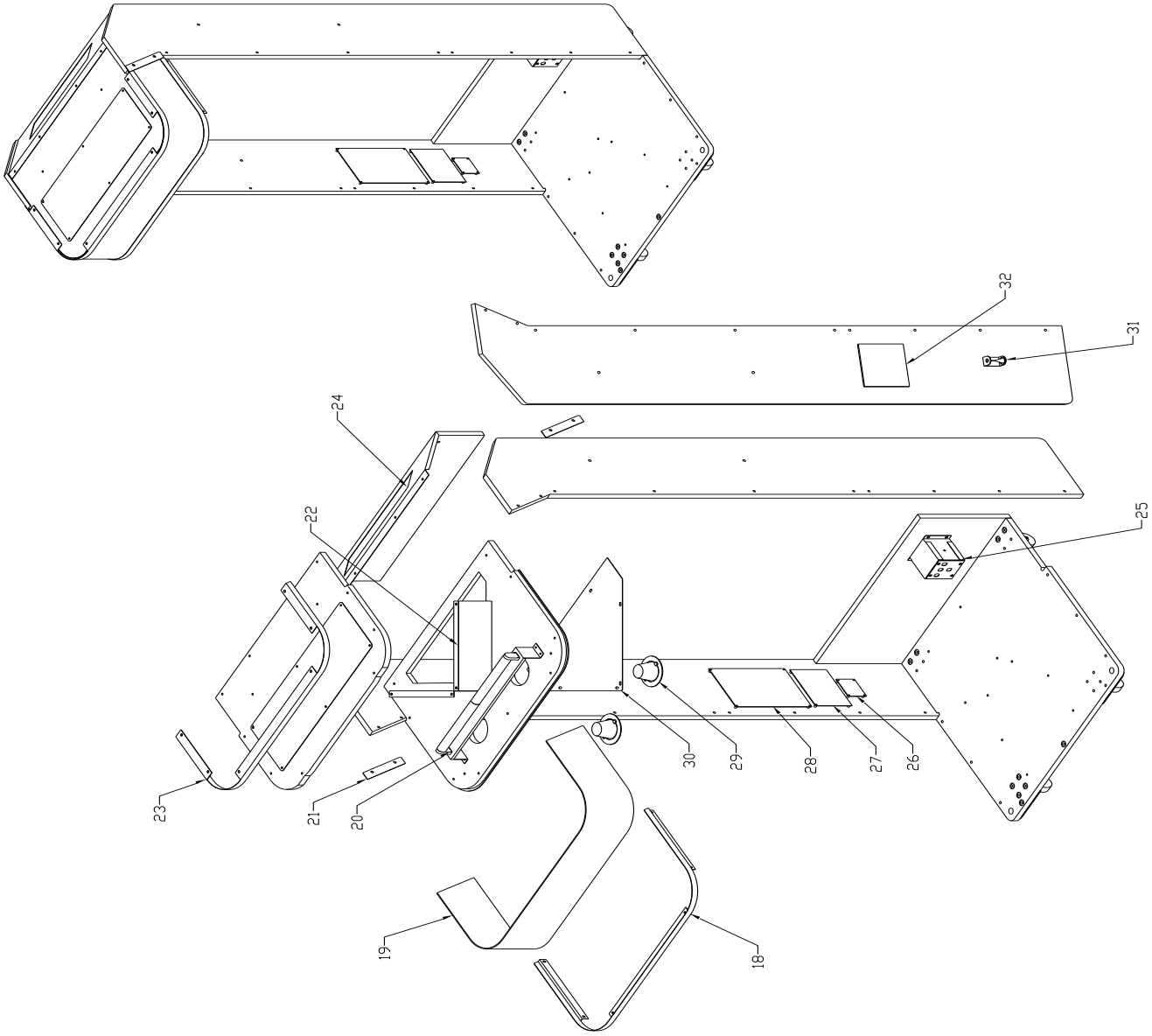


17C. LH1 E001 PRIZE ARM LONG ASSY WITH PCB

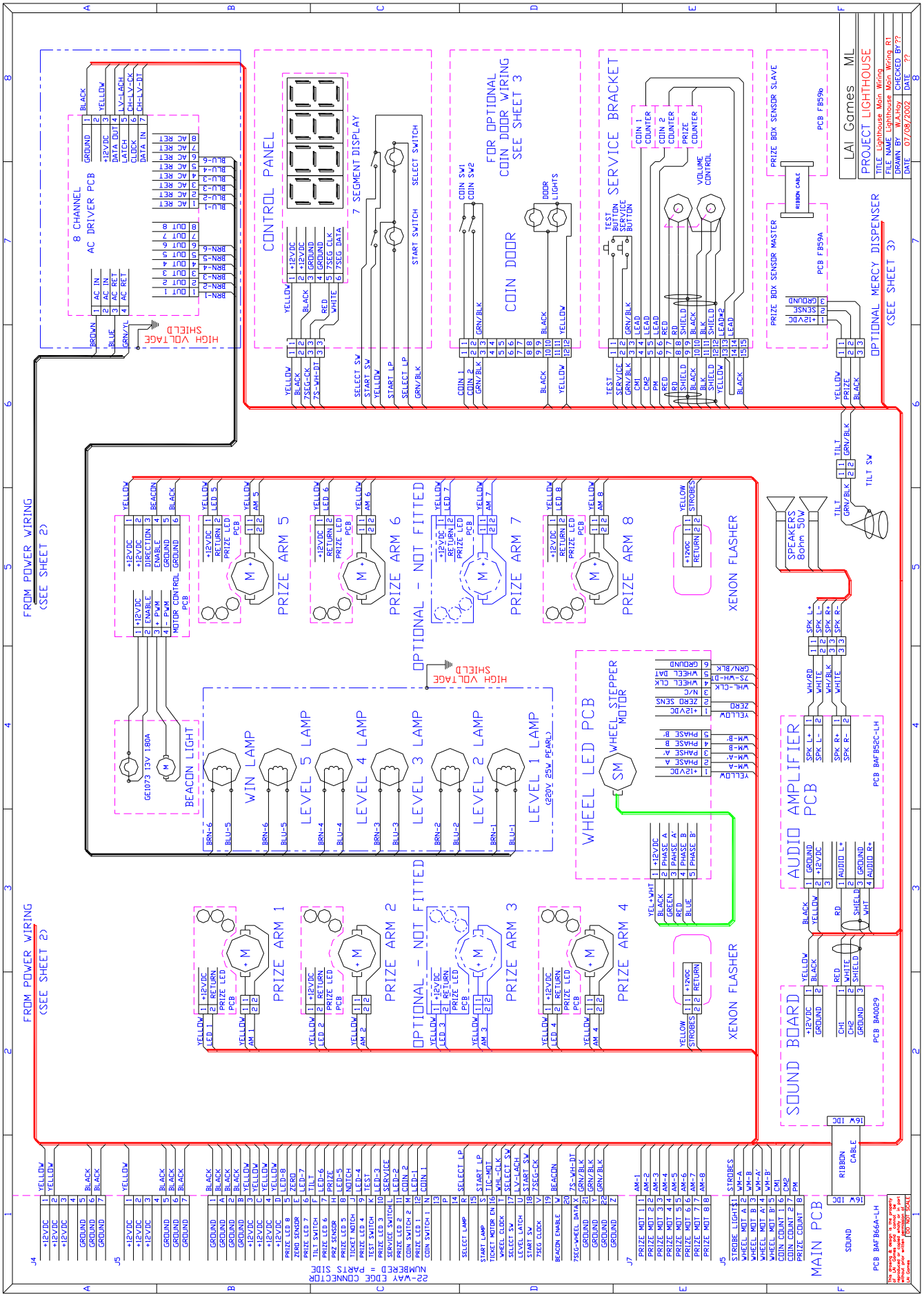


16. LH1 E007 POWER ASSEMBLY

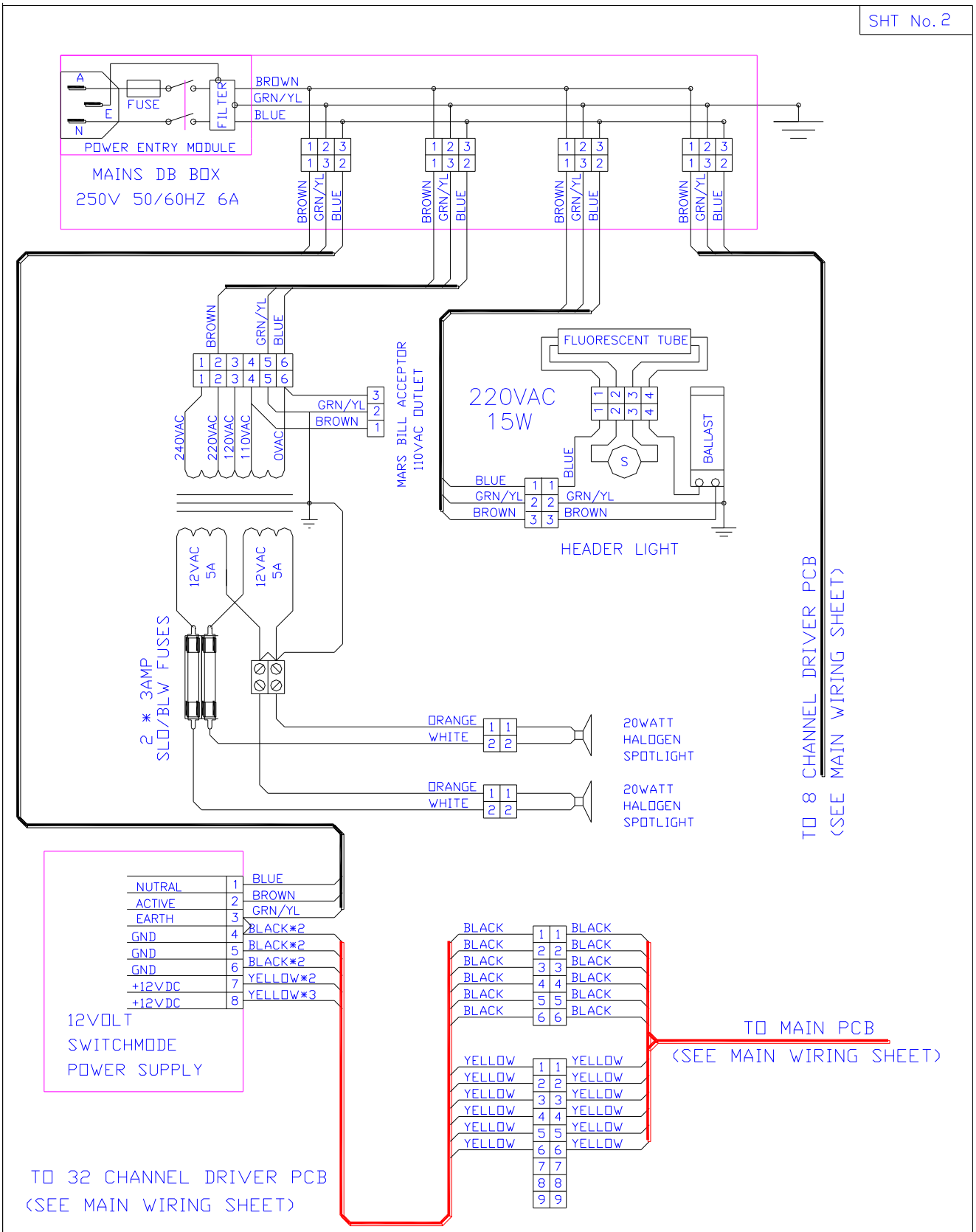
NO	PART NO	DESCRIPTION	QTY
18	LH1-FM-22-R0	MYLAR LOWER BRACKET	1
19	-	ACRILLIC HEADER	1
20	LH1 E006	TOP LIGHT LIGHTHOUSE	1
21	LH1-FM-36-R0	MYLAR SIDE RETAINER	2
22	LH1-FM-35-R0	MYLAR DIVIDER	1
23	LH1-FM-21-R0	MYLAR TOP RETAINER	1
24	LH1-SA-19-R0	MYLAR BACK COVER	1
25	LH1 E005	DB BOX ASSEMBLY	1
26	BA0029	PCBFB29 STEREO AUDIOAMPLIFIER	1
27	BAFB52C	PCB FB52C 16 MHz Z80	1
28	BAFB66A	PCB FB66A MPU CONTROLER	1
29	HA0001 ST	DOWNLIGHT ASSEMBLY	1
	EA0312	HOLDER DOWNLIGHT SWIVEL ACTION	1
	EA0209	DOWN LIGHT 12 V 20 W	1
30	LH1-FM-14-R0	DOWN LIGHT GRILL	1
31	EA0516	SWITCH TILT ASSEMBLY	1
32	BAFB78	PCB FB78 8 CHANEL AC DRIVER	1



LIGHTHOUSE MAIN WIRING DIAGRAM



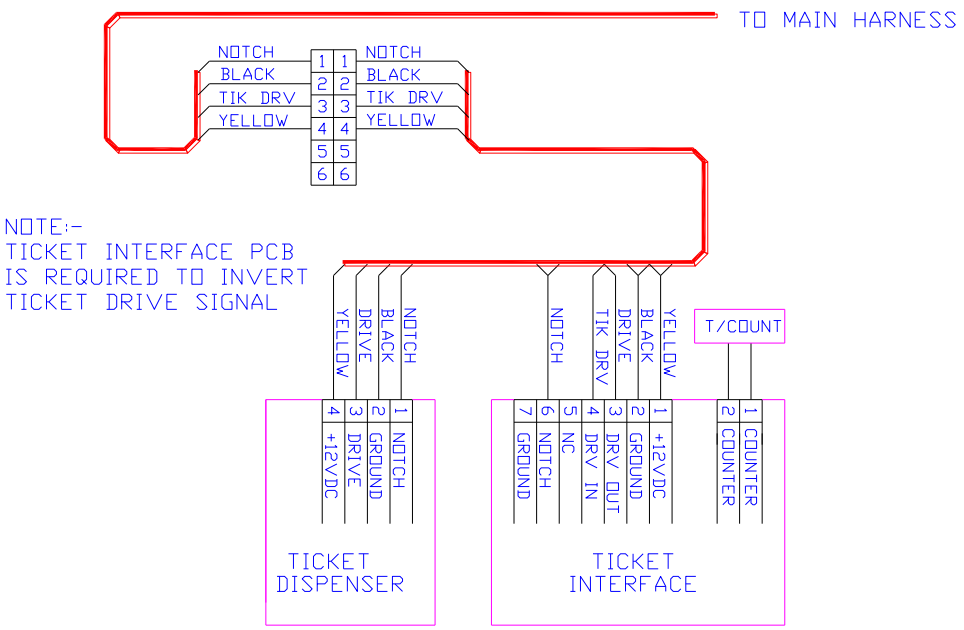
Lighthouse POWER WIRING DIAGRAM



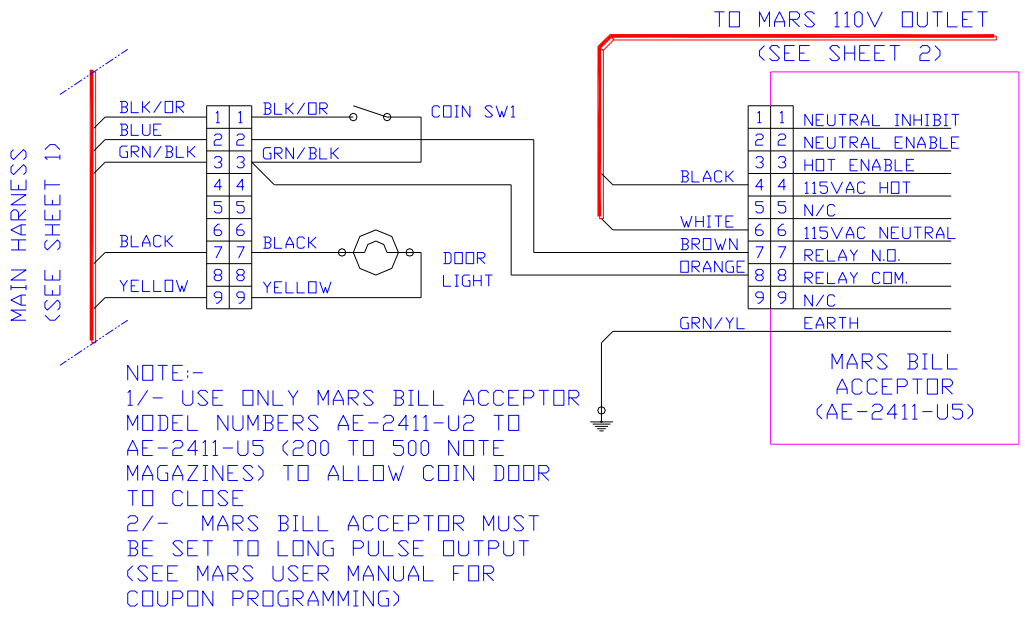
Lighthouse OPTIONAL WIRING DIAGRAM

SHT No. 3

(OPTIONAL)
WIRING FOR MERCY TICKET KIT



(OPTIONAL)
WIRING FOR COIN DOOR WITH
MARS BILL ACCEPTOR (AE-2411-U5)



NOTE:-
1/- USE ONLY MARS BILL ACCEPTOR MODEL NUMBERS AE-2411-U2 TO AE-2411-U5 (200 TO 500 NOTE MAGAZINES) TO ALLOW COIN DOOR TO CLOSE
2/- MARS BILL ACCEPTOR MUST BE SET TO LONG PULSE OUTPUT (SEE MARS USER MANUAL FOR COUPON PROGRAMMING)

LAI Games ML	
PROJECT LIGHTHOUSE	
TITLE Lighthouse Optional Wiring	
FILE NAME Lighthouse Optional Wiring R1	
DRAWN BY W.A.HAY	CHECKED BY
DATE 07/08/2002	DATE

WARRANTY

LAI GAMES warrants its manufactured products for a period of 3 months inclusive of parts and labor from the date of sale.

LAI GAMES exclusive obligation is to repair any item with any defects as a result of faulty workmanship or materials, providing the defective item or items of equipment are returned to the ***LAI GAMES*** distributor from which the machine was purchased.

LAI GAMES shall have no obligation to make repairs necessitated by negligence or interference to any component by any unauthorized personal. This will automatically void any existing warranty.

IF MAKING A WARRANTY CLAIM:

(a) A Copy of the sales invoice must accompany the claim.
(b) To and from Transport and freight costs are not covered by the warranty.
(c) Warranty is not transferable with the sale of a machine from one owner to another.

LAI GAMES

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INTERNATIONAL SALES & SERVICE

Sales/Enquires: sales@laigames.com
Product Support: support@mleisure.co.id
Web site: www.laigames.com

ISO 9001 CERTIFIED ORGANIZATION

URS UKAS QUALITY MANAGEMENT 043-A

ISO 9001: 2000 Cert No.17460