

**Program and Setup Manual**  
Innovative Concepts in Entertainment  
10123 Main Street  
Clarence, New York 14031

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## SAFETY AND WARNINGS BEFORE YOU BEGIN

WARNING: WHEN INSTALLING THIS GAME, A GROUNDED A.C. RECEPTACLE MUST BE USED. FAILURE TO DO SO COULD RESULT IN INJURY TO YOURSELF OR OTHERS. FAILURE TO USE A GROUNDED RECEPTACLE COULD ALSO CAUSE IMPROPER GAME OPERATION, OR DAMAGE TO THE ELECTRONICS.

**NOTE: THIS GAME IS INTENDED FOR INDOOR USE ONLY.**

DO NOT DEFEAT OR REMOVE THE GROUNDING PRONG ON THE POWER CORD FOR THE SAME REASON AS GIVEN ABOVE. USING AN IMPROPERLY GROUNDED GAME COULD VOID YOUR WARRANTY.

HAVE A QUALIFIED ELECTRICIAN CHECK YOUR A.C. RECEPTACLE TO BE SURE THE GROUND IS FUNCTIONING PROPERLY.

THIS GAME IS DESIGNED TO DISSIPATE STATIC ELECTRICITY THROUGH THE GROUNDING PLANE OF THE GAME. IF THE A.C. GROUND DOES NOT WORK, THE GAME COULD DISCHARGE STATIC ELECTRICITY THROUGH THE GAME CIRCUITRY, WHICH COULD CAUSE DAMAGE.

THE POWER SUPPLY IS NOT VOLTAGE ADJUSTABLE. TO OPERATE THE GAME AT VOLTAGES OTHER THAN THOSE IT WAS DESIGNED FOR. PLEASE CONTACT OUR SERVICE DEPARTMENT FOR VOLTAGE CONVERSION INFORMATION.

### WARNING

DO NOT remove any of the components on the main board (e.g. compact flash and eproms) while the game is powered on. This may cause permanent damage to the parts and the main board. Removing any main board component part while powered on will void the warranty.

ALWAYS REMOVE POWER TO THE GAME, BEFORE ATTEMPTING ANY SERVICE, UNLESS NEEDED FOR SPECIFIC TESTING. FAILURE TO OBSERVE THIS PRECAUTION COULD RESULT IN SERIOUS INJURY TO YOURSELF OR OTHERS.

THIS GAME IS NOT SUITABLE FOR INSTALLATION IN AN AREA WHERE A WATER JET COULD BE USED.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

## AC Power Information

The game's main fuse is accessed through the back of the game at the power mod. Above the power cord is a small panel that contains the main fuse.

The value of the fuse for 120 volt users is **6** AMPS at 250Volt type slow blow.

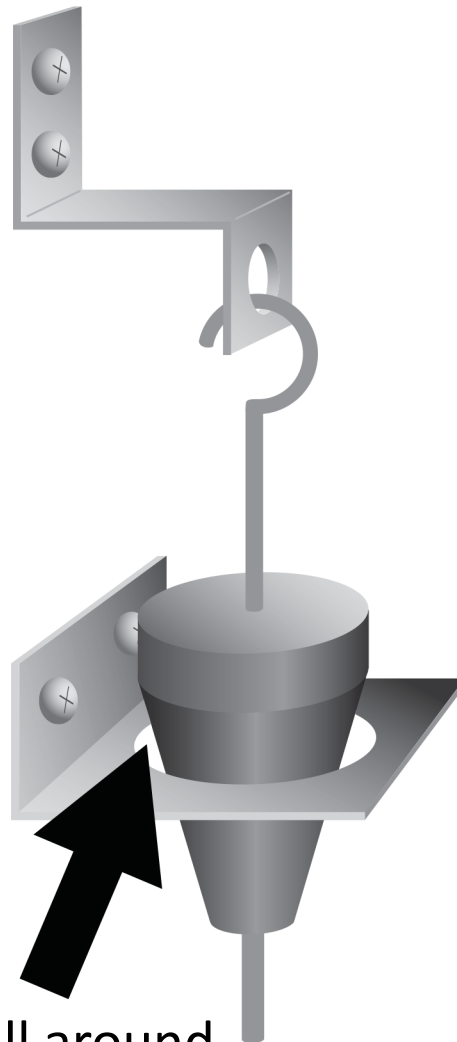
The value of the fuse for 230 users is **4** AMPS at 250Volt type slow blow.

# STOP

**Level game before setting tilt bobbin.**

**Adjust Tilt/Bob distance between 1/16" and 1/8" all around before power-up.**

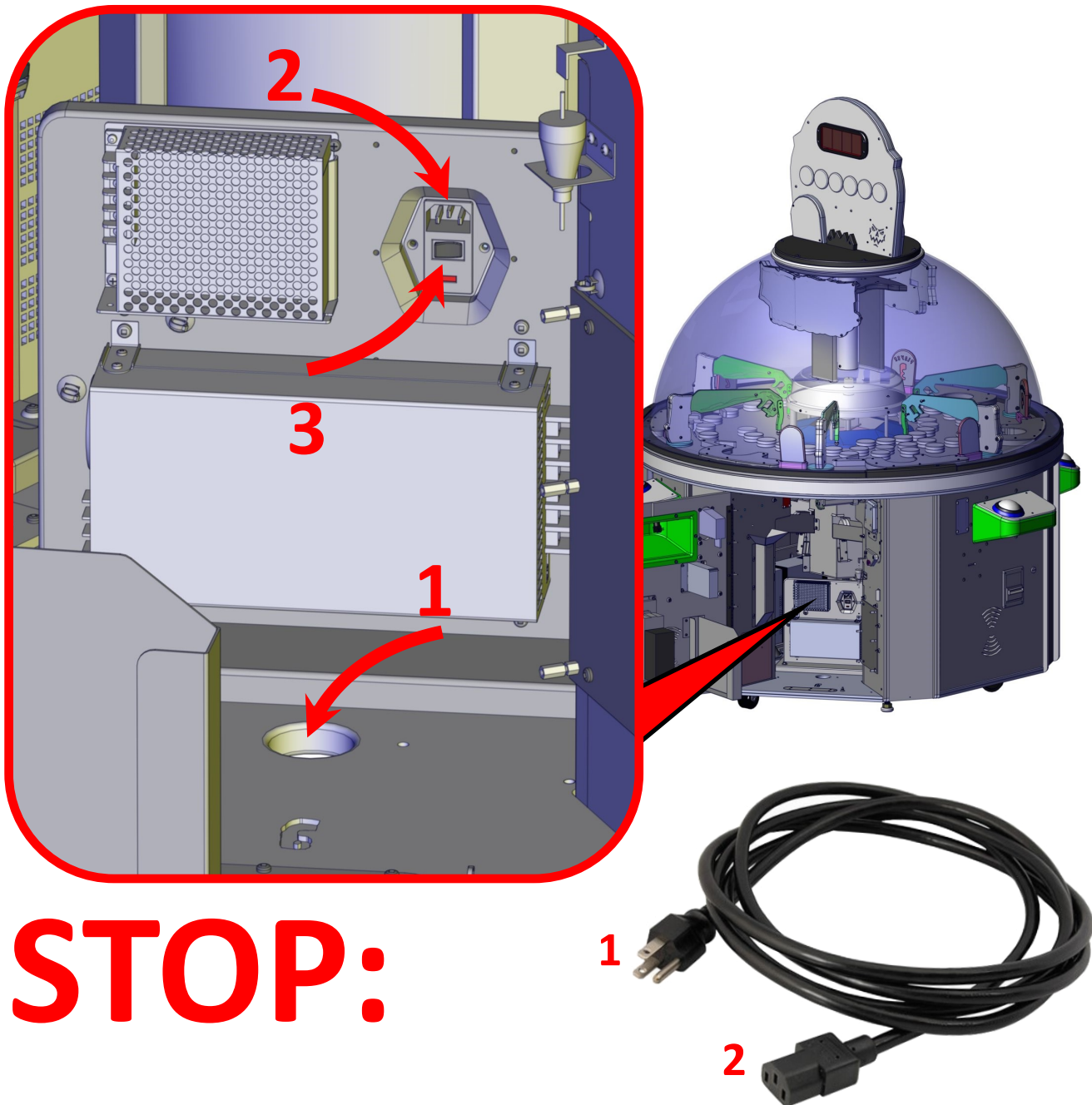
**Loosen wing nut to move up and down.**



1/16" to 1/8" All around

## Game SETUP

- 1 Open the door between Player Station 5 and 6.
- 2 Insert the male end of the AC plug through bottom of cabinet and into a AC outlet.
- 3 Then plug the female end into the power connector.
- 4 Turn the power switch to [I] position (on).



# STOP:

Follow any additional instruction sheets along with the included 11 x 17 setup guide that is attached to the cabinet to finish your game's setup.

Keyboard and mouse are located inside player door 4.

## OPTION: Card swipe Install

When installing a card swipe system there are different options for the control panel. See below for part numbers.

### Wire connections at each station:

Pin 1. Orange wire is the +12v of DC supply to the Card System with a maximum of 3amps.

Pin 2. White/brown wire is the Coin 1 line for that station.

Pin 3. Now used.

Pin 4. Not Used.

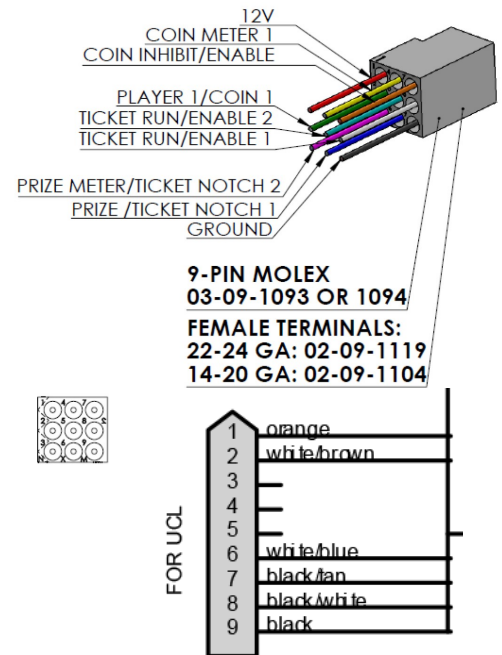
Pin 5. Not used.

Pin 6. White/blue wire is the ticket notch line.

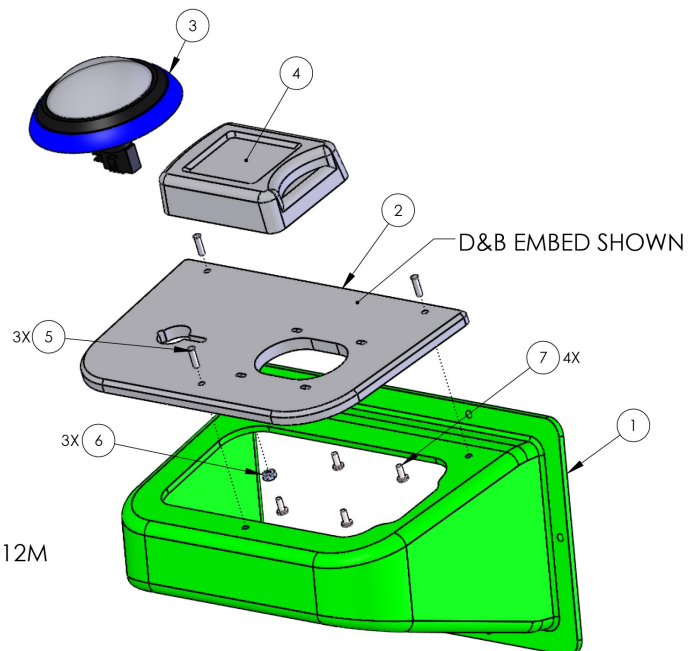
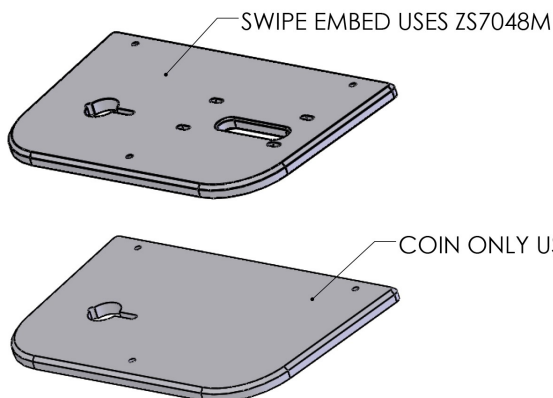
Pin 7. black/tan wire is the Coin Inhibit/lockout is used to disable any payment.

Pin 8. black/white wire is the Ticket Run or enable line.

Pin 9. black wire is for DC Ground. - It is connected to the common Ground connection, the same ground as the Game PCB



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ZS3033	CONTRO PANEL	1
2	ZS7013M	D&B EMBED	1
3	ZS2005	LARGE ROUND BUTTON WITH LIGHT ASY	1
4	ICR222266	D&B CARD READER	1
5	6041	8/32 x 5/8 PEM STUD FH 832-10	3
6	6004a	8-32 KEP NUT	3
7	AA6691	M4 X 10MM PPHMS	4



## Marquee Removal

Using a 3/16 Allen on the 1/4 -20 x 15/32 joint connectors and 5/32 Allen on the 1/4-20 2-3/4 bolts remove the two shown below. The opposite hardware is on the other side of the marquee. Then unplug the harness.

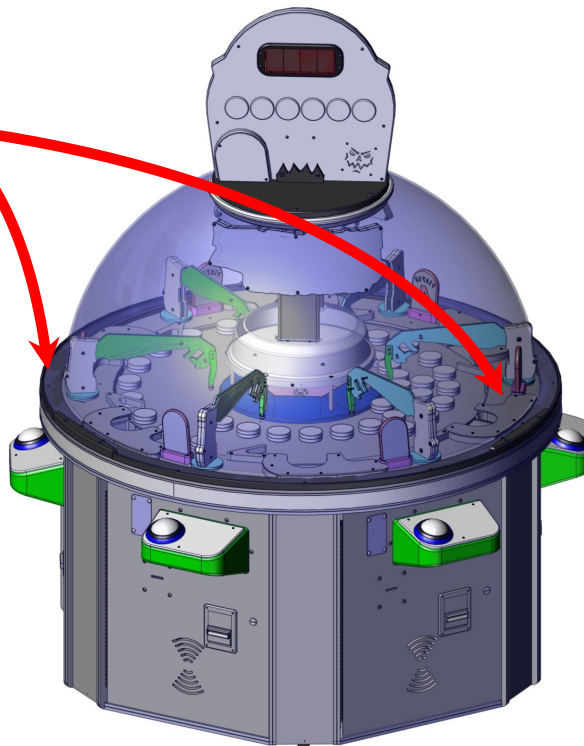
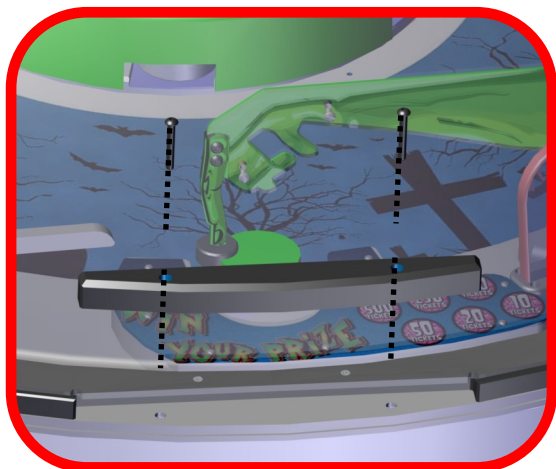


## HOW TO USE THE SAFETY BRACE - DO NOT DISCARD!

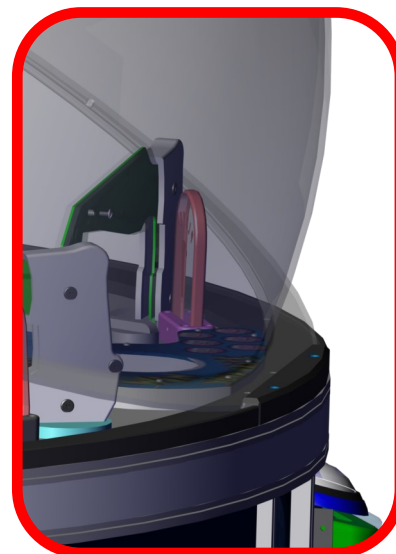
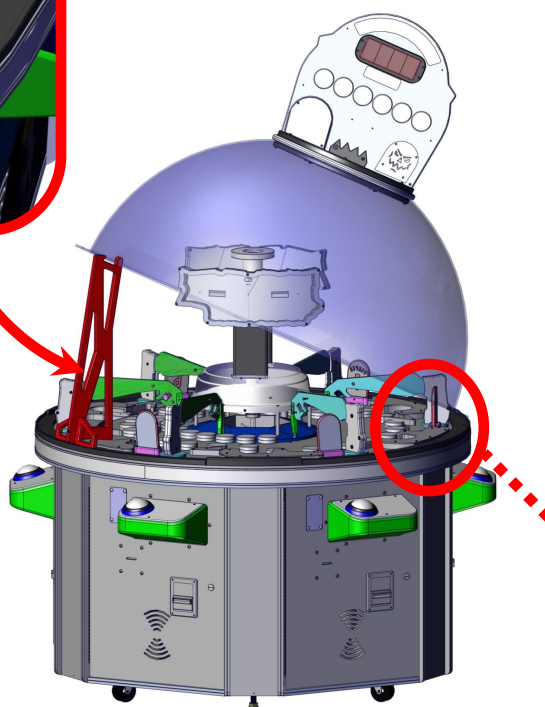
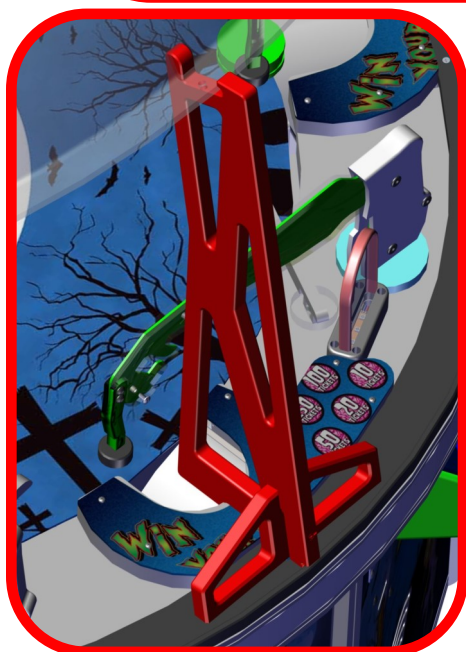
### DO NOT REMOVE THE DOME TO SETUP YOUR GAME!

Remove two dome mounts on the side which you need to access.

*Do not remove the mount opposite of where you wish to access!!*



Lift the dome up and insert the safety bracket so that the bottom locks into the win hole and the top locks into the dome. It is inserted into the opposite end where you left the third dome mount.




## Understanding the Game Software

A monitor is located inside the cabinet at Player Station 2. A keyboard and mouse is also located inside the cabinet. Open Player station 6 door and locate the keyboard and mouse. To access the computer to plug in the mouse and keyboard, open player station 1. The mouse will move the cursor (arrow) over the different menu buttons. Pressing the left button will either select that menu button or increment the value shown in the menu button. The right mouse button will decrease the value shown in the menu button.

## Credits Screen



Book Keeping  
Screen 



## Menu Buttons



## Event Logs



Software  
Version and  
firmware of  
I/O boards



**Messages**

Game has been started.

Player Number	Plays
1	0
2	0
3	0
4	0
5	0
6	0

Total Credits In [ 0 ]	Total Value In [ \$0.00 ]	Ticket Pucks Won [ 0 ]	Total Pucks Won Per Value [BONUS/30:0][2:0][5:0][10:0][20:0]	
Total Tickets Out [ 0 ]	Total Value Out [ \$0.00 ]	Bonus Pucks Won [ 0 ]	Pucks In Chute [ P1: 0 P2: 0 P3: 0 P4: 0 P5: 0 P6: 0 ]	
Total Plays [ 0 ]	Payout Percentage [ 0.00% ]	Pucks Won [ 0 ]	Pucks Won:Plays Ratio [ 0 ]	Total Bonus Wins [ 0 ]

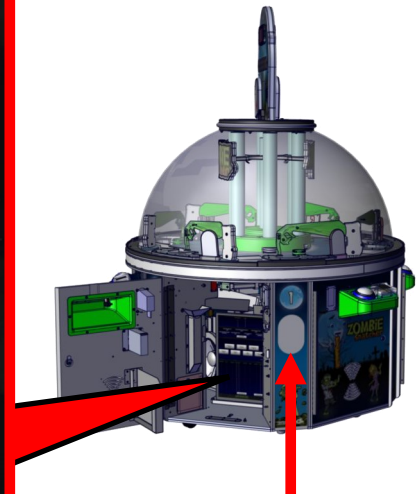
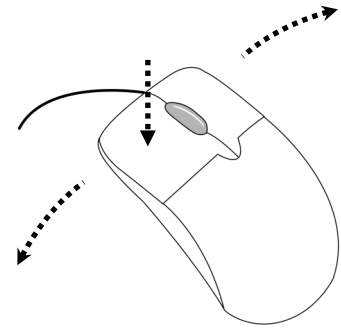
**Gameplay Cost / Awards**      **Advanced Books**      **Tilt Off**      **Attract Volume [ 10% ]**

**Puck Menu**      **Operator Menu**      **Reset Menu**      **In-Game Volume [ 20% ]**

Date/Time	Player	Serial No.	Tickets	Value	Date/Time	Player	Serial No.	Tickets	Value
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
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-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
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-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0
-	-	-	0	0	-	-	-	0	0

**Clear Events**      **Next Page**

Zombie Snatcher Recycler Version v4.11css  
 Firmware Versions [ 10 #1: --, 10 #2: - ]  
 2016 Toccata Gaming International



## Understanding the main screen.

The upper portion of the display shows the player stations and how many plays has been purchased. This information is important if using the multi-swing option. It allows you to confirm the amount of players per credit. If you have configured the game for three swings per credit, each time a credit is purchased, plays will increase by three. As the player plays each play, this value will decrease by one.

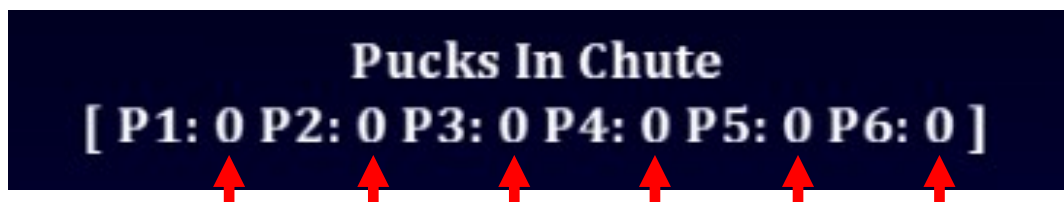
The next section is the active book keeping. The information is based on how you have the game configured. It is very important that the "Ticket value" and "Cost of Game" are correct. The puck values used are programmed under "Puck Menu".

<div>Messages</div> <div>Game has been started.</div>		Player Number	Plays
		1	0
		2	0
		3	0
		4	0
		5	0
		6	0

Total Credits In [ 0 ]	Total Value In [ \$0.00 ]	Ticket Pucks Won [ 0 ]	Total Pucks Won Per Value [BONUS/30:0][2:0][5:0][10:0][20:0]	
Total Tickets Out [ 0 ]	Total Value Out [ \$0.00 ]	Bonus Pucks Won [ 0 ]	Pucks In Chute [ P1: 0 P2: 0 P3: 0 P4: 0 P5: 0 P6: 0 ]	
Total Plays [ 0 ]	Payout Percentage [ 0.00% ]	Pucks Won [ 0 ]	Pucks Won:Plays Ratio [ 0 ]	Total Bonus Wins [ 0 ]

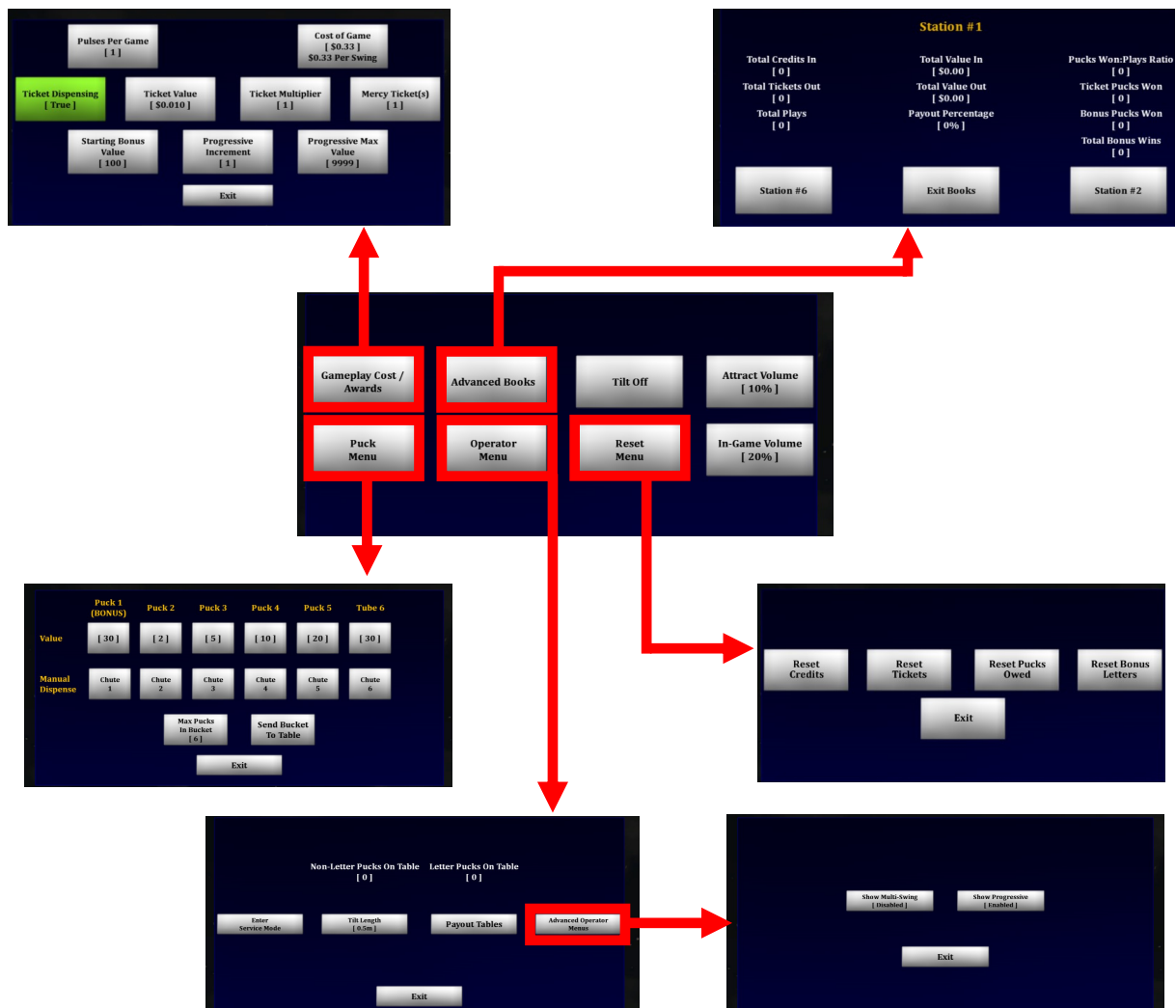
## Understanding Pucks in Chute

When pucks are won and validated, they are release into the prize chute. They are then momentary stopped before dropping into the auto dispenser. If the auto dispenser is full or not in the home position the pucks will await in the chute blocked. This is shown in "PUCKS IN CHUTE". If any chute has four pucks waiting for the auto dispenser, that station will begin to flash yellow and not allow a player to play that station.



**IF MORE THAN FOUR THAT STATION WILL NOT ALLOW PLAY!**

# Game software menus and their meaning.



## The Main Menu:

**Game Cost/Awards:** See Sub Menu.

**Advanced Books:** See Sub Menu.

**Tilt:** Enables or disables the tilt bobbin located inside the game.

**Attract Volume:** This will adjust the attract volume different from game play.

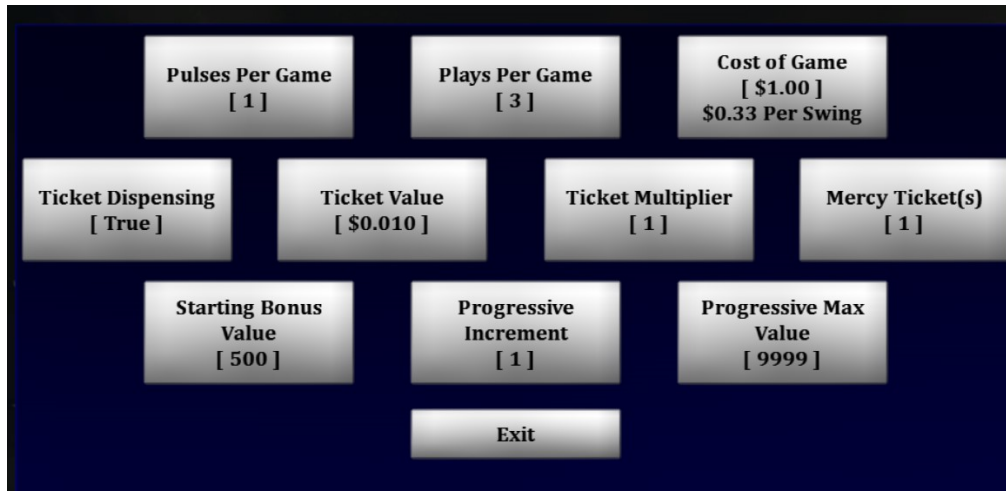
**Puck Value Menu:** See Sub Menu.

**Operator Menu:** See Sub Menu.

**Reset Menu:** See Sub Menu.

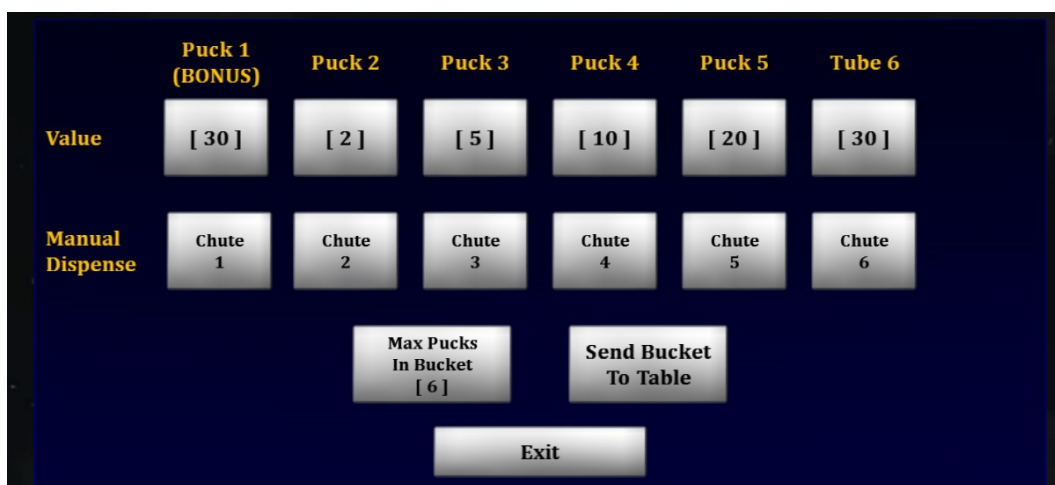
**In-Game Volume:** This will adjust the game volume. There is also a amplifier that can be adjusted.

**EXIT:** This will exit the game.



## Gameplay Cost/Award Button

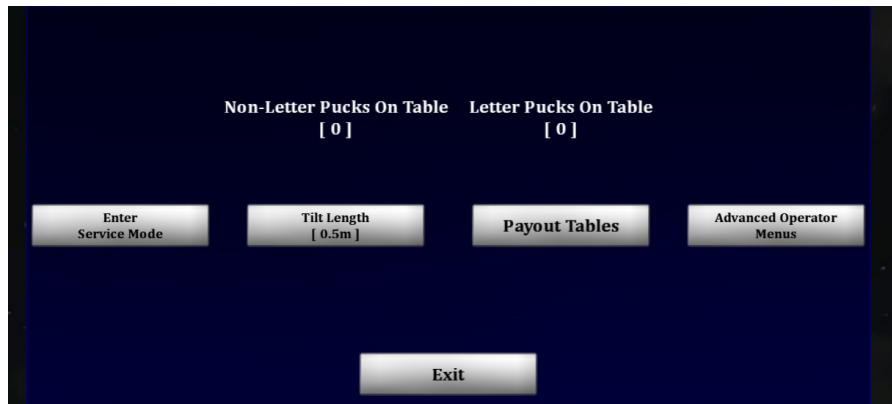
- Pulses Per Game:** This button determines how many pulses are needed to give a credit to play.
- Swings Per Game:** The number of swings given to a player per each game credit. When two swings are enabled the cost of game is divided in half. When three swings are enabled the cost of the game is one third the value. If a customer charges a dollar but gives the player three swings, then you would use a .33 cent pay table and not a dollar pay table.
- This option must be enabled in “Advance Operator menu” in Operator Menu.
- Cost of Game:** This button defines how much money you are charging to play. This is a critical setting in order for the book keeping to calculate correctly.
- Ticket Dispensing:** Turns tickets on or off.
- Ticket Multiplier:** Allows you to use higher value tickets. The range is 1—10.
- Ticket Value:** This sets the value of your tickets in money. This is a critical setting in order for the book keeping to calculate correctly.
- Mercy Ticket (s):** The game will pay out these tickets no matter the amount won. 0 = off. Range is 1—5 tickets.
- Starting Bonus Value:** This is the starting bonus and will be displayed on the upper marquee. Refer to “Bonus values” Chart.
- Progressive Increment:** Each time a game is played and the bonus is not won it will increase the bonus by this value. 0 disables
- Progressive Max Value:** This option will limit the bonus from increasing over this value.
- Reset Progressive:** This will only reset the bonus back to its starting value. It will not reset any letters lit.
- EXIT:** Returns to the main menu.



## Puck Value Menu

This menu allows you to define the pucks being used in your game. The game will reject any pucks that are not defined. Puck one is always the bonus puck's value and cannot but used for regular pucks.

- Value:** Each puck has a printed ticket value on it including the bonus puck (it does not have to match the bonus amount). Any puck that is won and its value is not defined will cause that station it was one in to go out of order and flash yellow.
- Manual Dispense:** Clicking this button will release any pucks in that player's chute (if the auto dispenser is in the home position).
- Max Pucks In Bucket:** This line configures the game to how many pucks need to be loaded into the auto dispenser before returning them to the playfield.
- Send Bucket To Table:** This will send the auto dispenser to the playfield regardless how many pucks are in To it.
- Exit:** This button will exit the menu and return to the main menu.



## Operator Menu

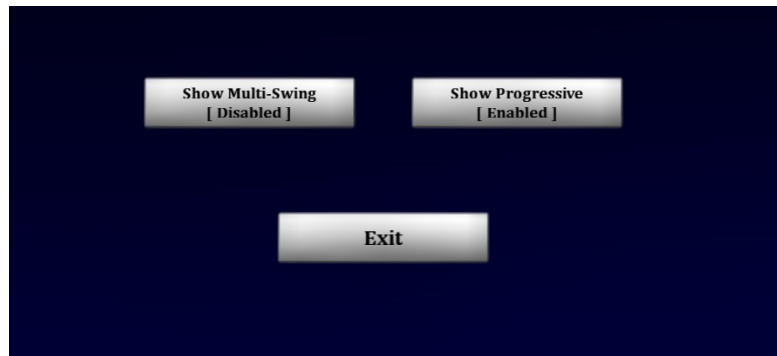
- Enter Service Mode:** This button will cause all the zombie arms to move from play position to the service position in order to remove the playfield. MAKE SURE NOTHING BLOCKS THE ARMS PATH OR DAMAGE CAN OCCUR.
- Tilt Length:** Sets the duration of the tilt sound before automatically turning off. Range is .5 to 5 minutes.
- Payout Tables:** This allows you to AUTO-configure your game per what you wish to charge. See sub menu.
- Advance Operator Menu:** See sub menu.
- Exit:** This button will exit the menu and return to the main menu.

	Tube 1 (Z-O-M-B-I-E)	Tube 2	Tube 3	Tube 4	Tube 5	Tube 6
Value	250	5	10	20	30	250
Init Qty.	2	12	12	10	4	2
		Bonus Start	Bonus Max.	Prog. Inc.		
		500	9999	1		
		Ticket Value		Ticket Multiplier		
		0.01		1		
		Payout Table [ 0.33 ]	Commit Table	Exit		

## Payout Tables (Tube = pucks, there are no tubes...)

This menu auto setup different game values in the game depending on what you charge.

- Payout Table:** This button each time pressed will change to different payouts.
- Commit Table:** Clicking this twice will auto load the table you selected.
- Exit:** This button will exit the menu.



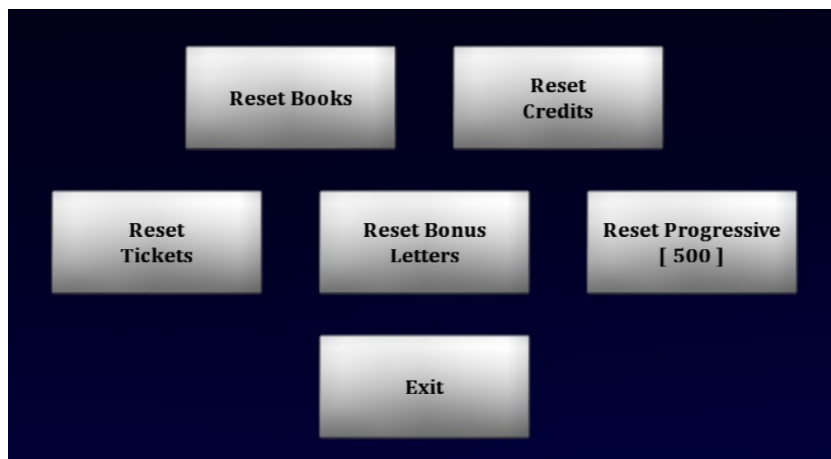
## Advance Menu

This menu will enable/disable features of the game.

**Show Multi-Swing:** This button will disable or enable the option to add more swings per play.

**Show Progressive:** This button will disable or enable the ability to set a progressive bonus.

**Exit:** This button will exit the menu.



## Reset Menu

This menu resets the various settings or values in the game.

**Reset Books:** This button will erase all earnings and book keeping.

**Reset Credits:** This button will erase any credits that have been accumulated and not played.

**Reset Tickets:** This will erase any tickets owed from any and all stations.

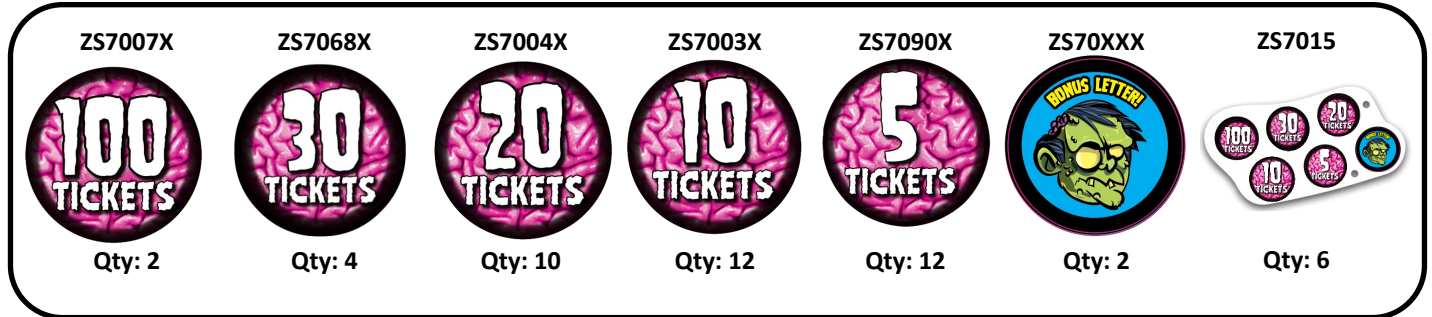
**Reset Bonus Letters:** This will turn off all lighted letters in the bonus sign.

**Reset Progressive:** This will reset the bonus back to the defined starting value (in Game Play/Cost menu).

**Exit:** This button will exit the menu.

# How to configure your game for a .25 Playfield.

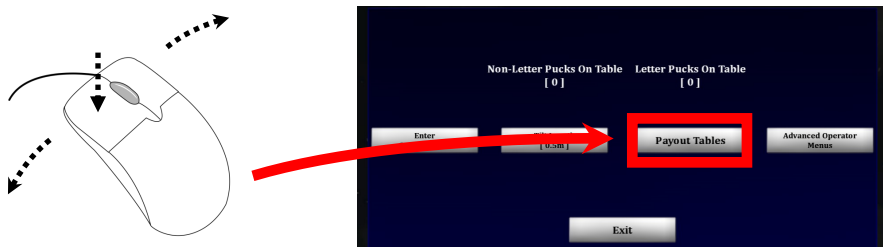
**Step 1:** Confirm the pucks on and decals match below. If missing, contact the ICE Service Department.



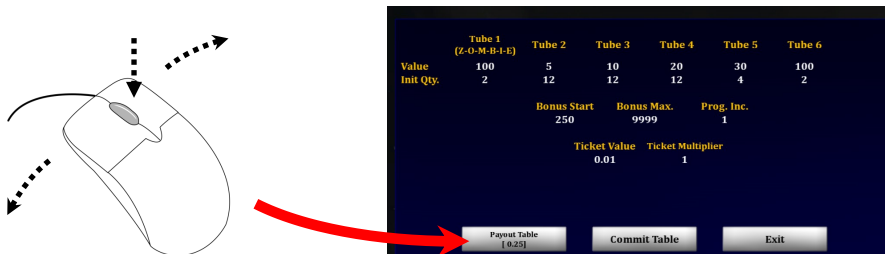
**Step 2:** At the main menu press the left mouse button on “Operator Menu”.



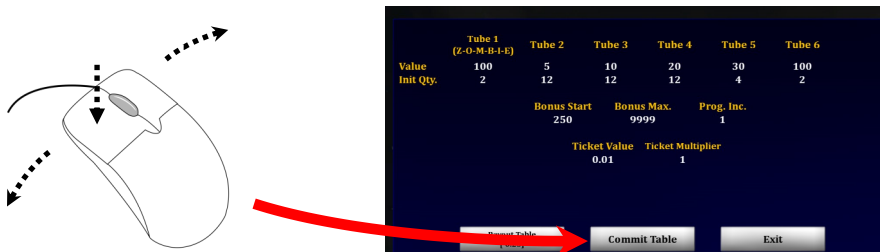
**Step 3:** Then click with the left mouse button on “Payout Tables”.



**Step 4:** Then click with the right mouse button on “PAYOUT TABLE” until it shows [.25] as the table.



**Step 5:** Click on the “Commit Table” twice with the left mouse button.

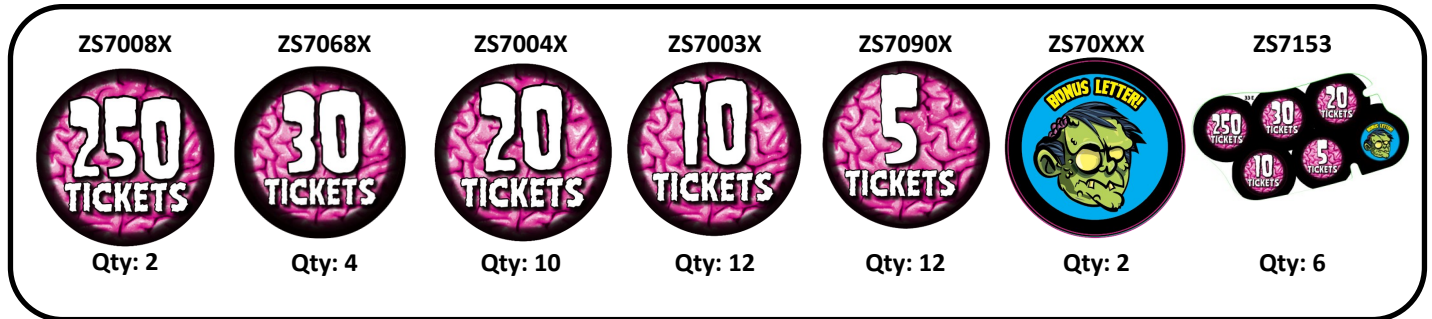


**Step 6:** Click on “EXIT” with the left mouse button.

**Your game is now ready and configured for a .25 cent gamevalued at .25 per swing.**

# How to configure your game for a .33 Playfield.

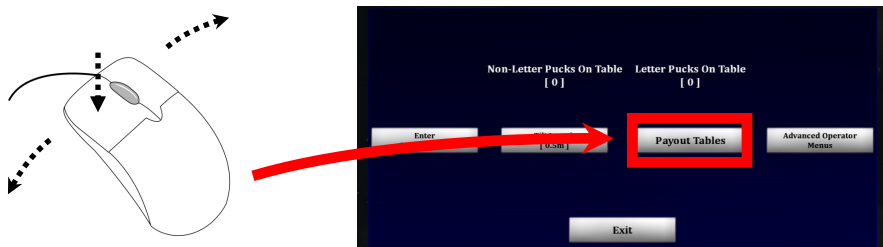
**Step 1:** Confirm the pucks on and decals match below. If missing, contact the ICE Service Department.



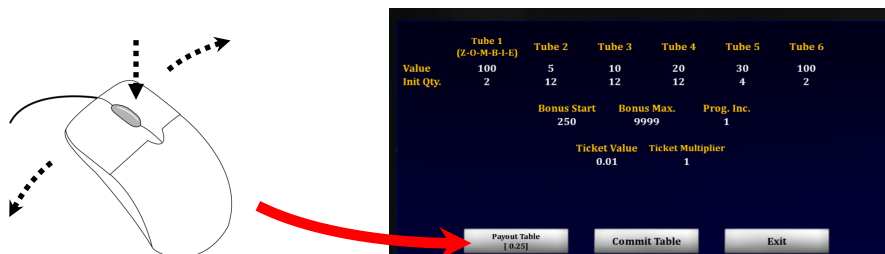
**Step 2:** At the main menu press the left mouse button on “Operator Menu”.



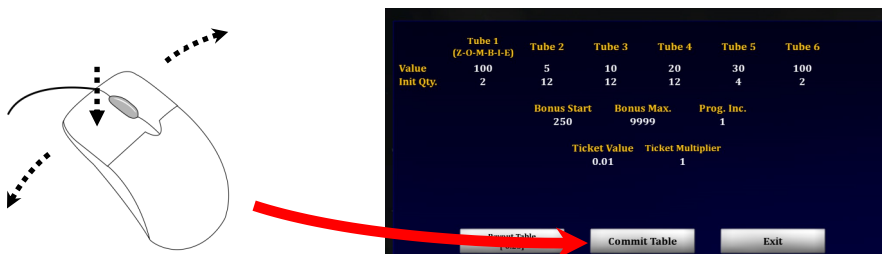
**Step 3:** Then click with the left mouse button on “Payout Tables”.



**Step 4:** Then click with the right mouse button on “PAYOUT TABLE” until it shows [.33] as the table.



**Step 5:** Click on the “Commit Table” twice with the left mouse button.

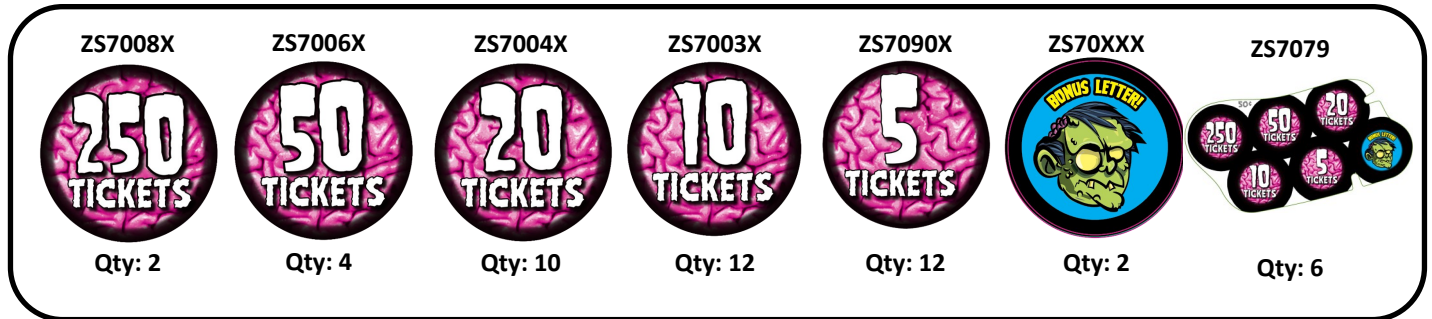


**Step 6:** Click on “EXIT” with the left mouse button.

**Your game is now ready and configured for a .33 cent game valued at .33 per swing.**

# How to configure your game for a .50 Playfield.

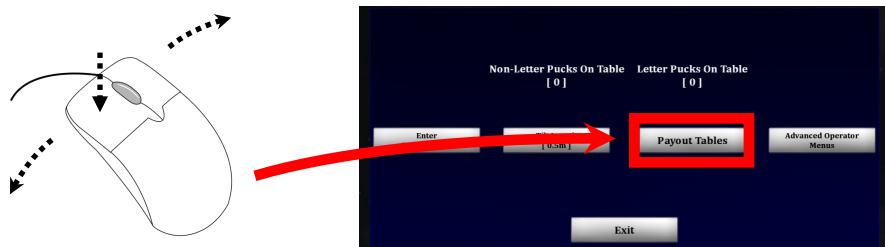
**Step 1:** Confirm the pucks on and decals match below. If missing, contact the ICE Service Department.



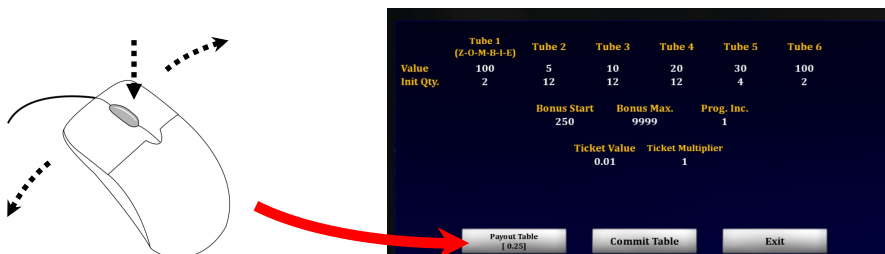
**Step 2:** At the main menu press the left mouse button on “Operator Menu”.



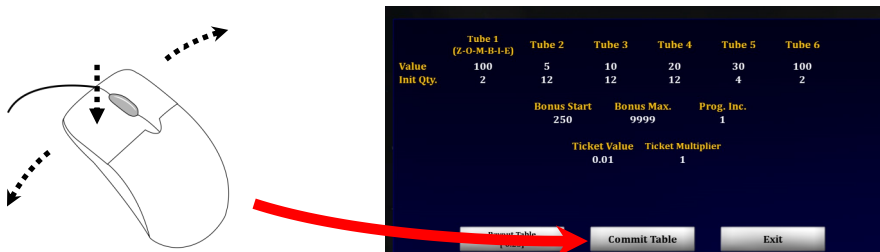
**Step 3:** Then click with the left mouse button on “Payout Tables”.



**Step 4:** Then click with the right mouse button on “PAYOUT TABLE” until it shows [.50] as the table.



**Step 5:** Click on the “Commit Table” twice with the left mouse button.

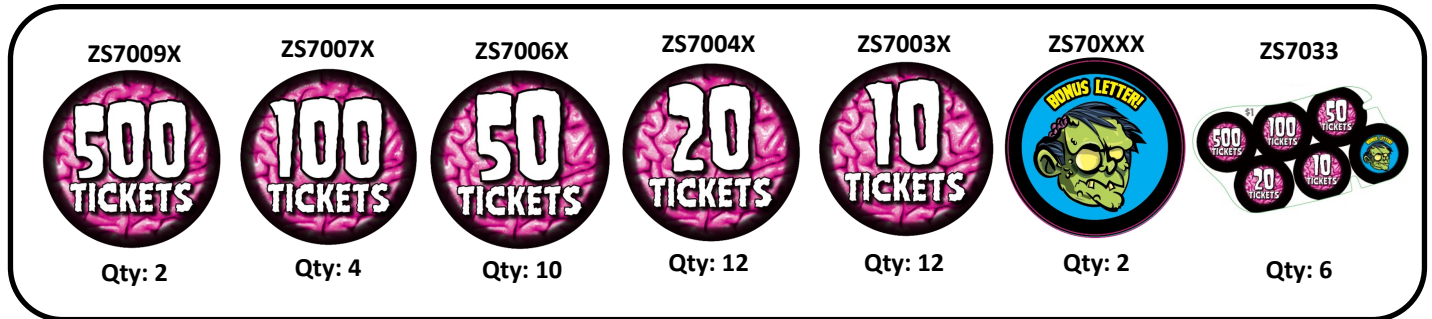


**Step 6:** Click on “EXIT” with the left mouse button.

**Your game is now ready and configured for a .50 cent game valued at .50 per swing.**

# How to configure your game for a \$1.00 Playfield.

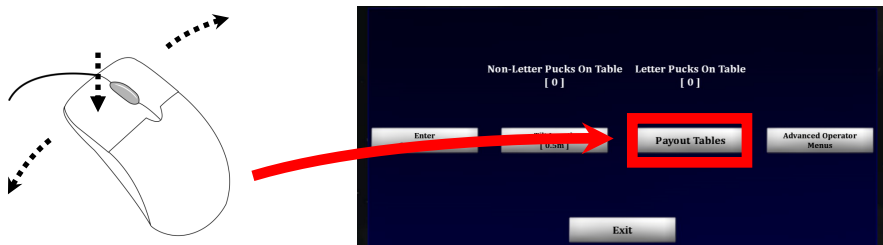
**Step 1:** Confirm the pucks on and decals match below. If missing, contact the ICE Service Department.



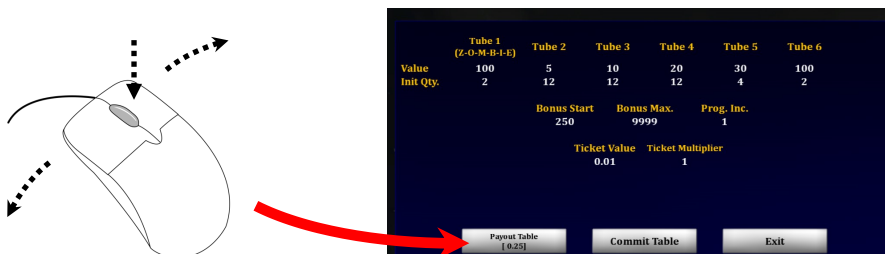
**Step 2:** At the main menu press the left mouse button on “Operator Menu”.



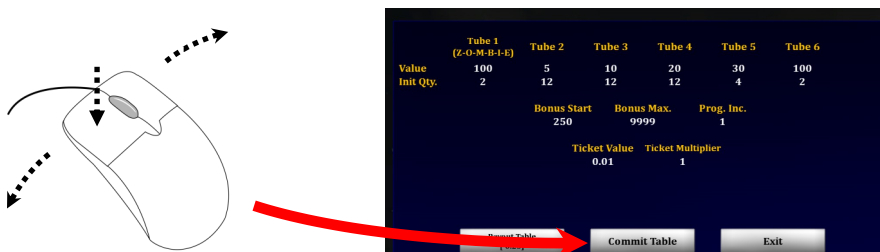
**Step 3:** Then click with the left mouse button on “Payout Tables”.



**Step 4:** Then click with the right mouse button on “PAYOUT TABLE” until it shows [1.00] as the table.



**Step 5:** Click on the “Commit Table” twice with the left mouse button.

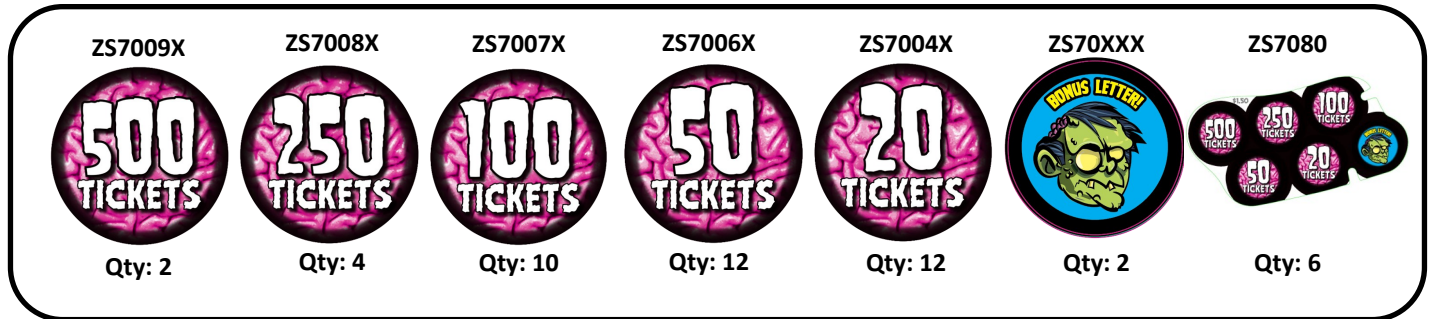


**Step 6:** Click on “EXIT” with the left mouse button.

**Your game is now ready and configured for a \$1.00 game valued at \$1.00 per swing.**

# How to configure your game for a \$1.50 Playfield.

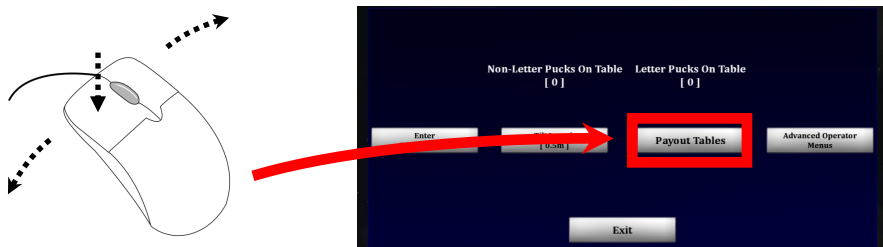
**Step 1:** Confirm the pucks on and decals match below. If missing, contact the ICE Service Department.



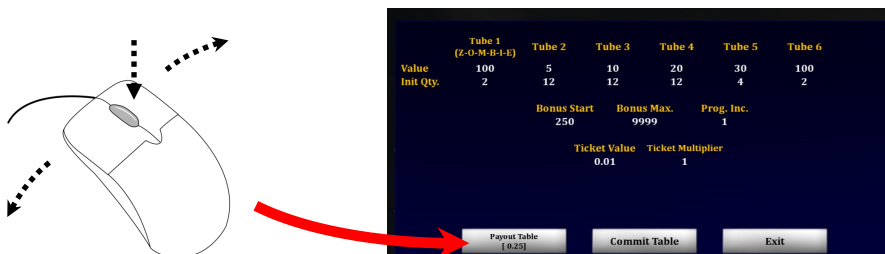
**Step 2:** At the main menu press the left mouse button on “Operator Menu”.



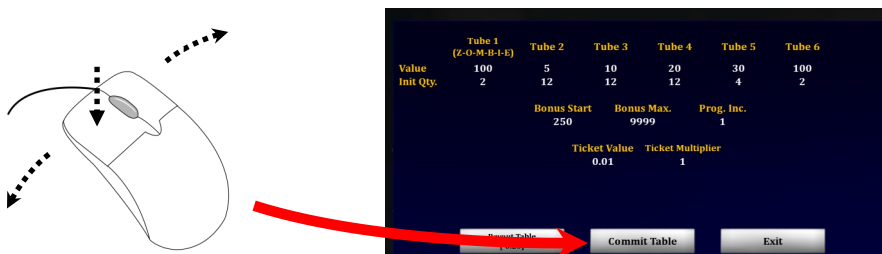
**Step 3:** Then click with the left mouse button on “Payout Tables”.



**Step 4:** Then click with the right mouse button on “PAYOUT TABLE” until it shows [1.50] as the table.



**Step 5:** Click on the “Commit Table” twice with the left mouse button.

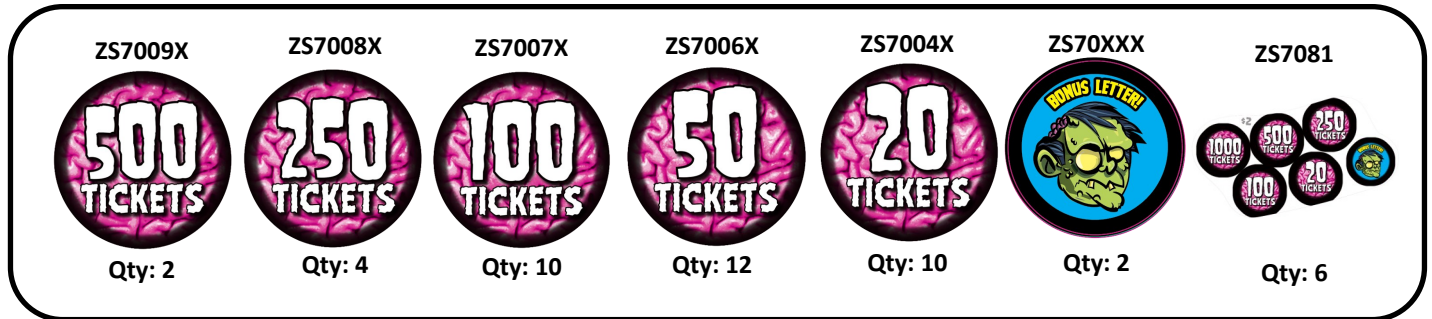


**Step 6:** Click on “EXIT” with the left mouse button.

**Your game is now ready and configured for a \$1.50 game valued at \$1.50 per swing.**

# How to configure your game for a \$2.00 Playfield.

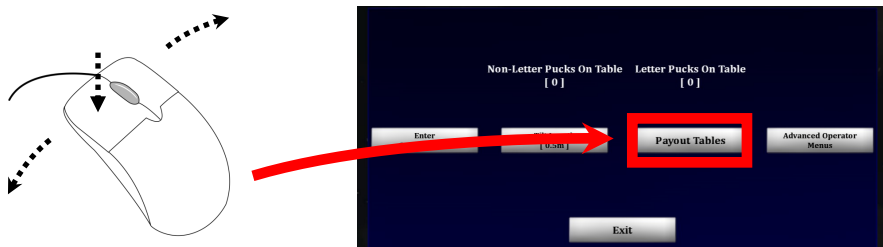
**Step 1:** Confirm the pucks on and decals match below. If missing, contact the ICE Service Department.



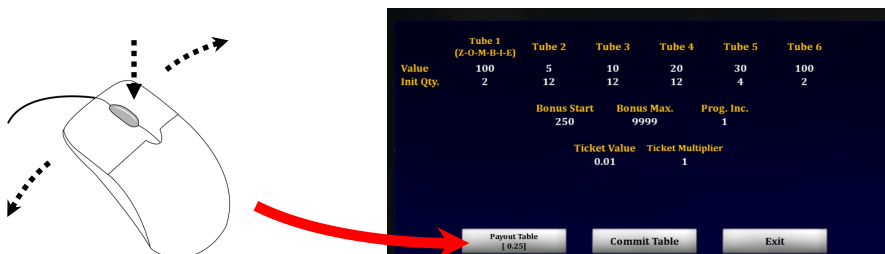
**Step 2:** At the main menu press the left mouse button on “Operator Menu”.



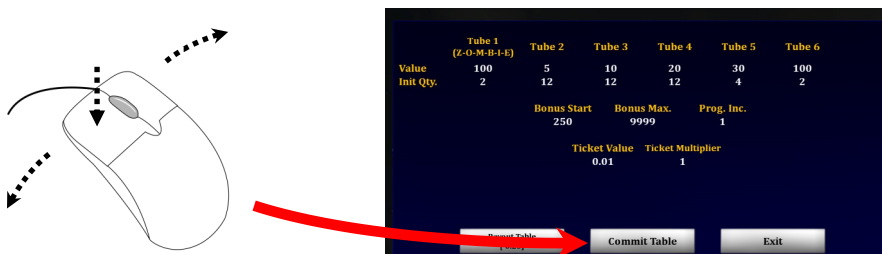
**Step 3:** Then click with the left mouse button on “Payout Tables”.



**Step 4:** Then click with the right mouse button on “PAYOUT TABLE” until it shows [\$2.00] as the table.



**Step 5:** Click on the “Commit Table” twice with the left mouse button.



**Step 6:** Click on “EXIT” with the left mouse button.

**Your game is now ready and configured for a \$2.00 game valued at \$2.00 per swing.**

## Auto Fill Dispenser Unit

When a puck drops into the prize chute, the RFID reader identifies the value of the puck. If the value of the puck is valid the puck is released into the puck chute. A solenoid prevents the puck from rolling all the way down into the auto filler. The game checks to ensure the auto filler is in the home position and if so fires the solenoid releasing the puck into the dispenser.

When seven pucks fill the auto fill dispenser, the dispenser will turn on the bottom motor bringing the pucks to the top. The motor will turn off predetermined amount of time (no end of travel switch). If any pucks are won at this time, the solenoids in the puck chutes will stop them. If more than four pucks are in the chute, the station will begin to flash yellow and not allow a player to play.

Once the auto filler has brought the pucks to the top, a second motor will engage magnetically the agitator. The agitator will spin in both directions for a period of time. The motor will return the dispenser back to the bottom until the home sensor is made. Once the home switch is made, if any pucks are in the chutes, the solenoids will fire releasing them into the dispenser. This process will repeat through out the game.

Pressing the following keys on the keyboard will:

Z= fire solenoid 1

X= fire solenoid 2

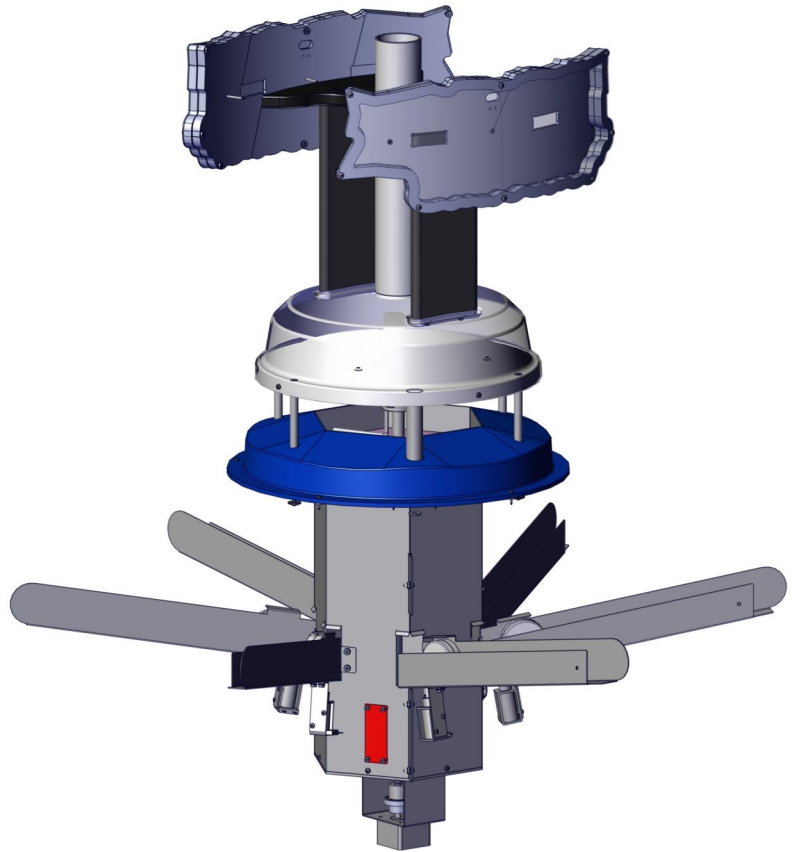
C= fire solenoid 3

V= fire solenoid 4

B= fire solenoid 5

N= fire solenoid 6

M= cycle dispenser



No more than 4 pucks can be loaded into the chute, otherwise the station will begin to flash yellow.



## Prize Chute Assembly

At each player station is a prize chute assembly. If a player manages to push a puck into the prize chute the puck lands on a ramp that directs it to land sideways into the puck motor assembly. Located at the side of the puck motor assembly is a RFID reader. What is RFID? It stands for Radio Frequency identification which is a technology that incorporates the use of electromagnetic in radio frequency to uniquely identify an object, animal, or person. We use this to assign a unique code to the pucks.

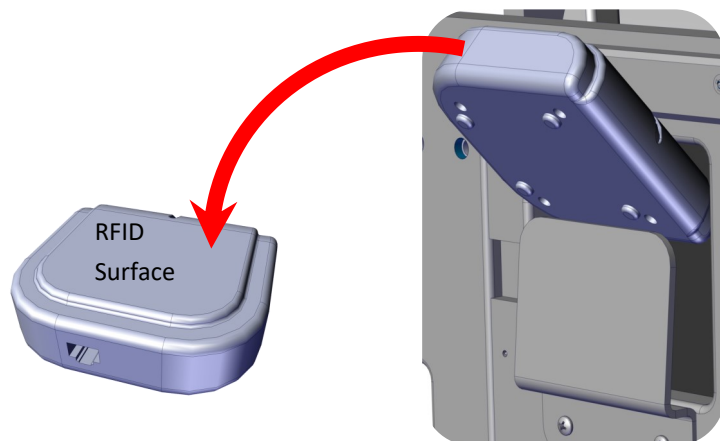
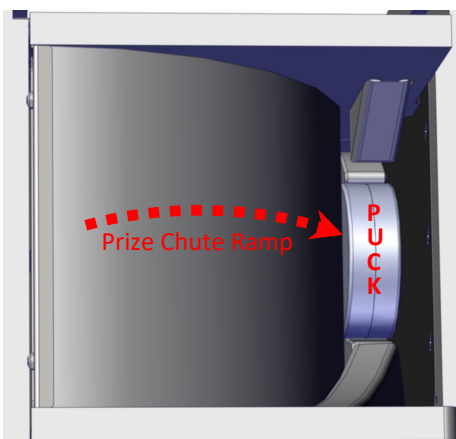
Our RFID technology has two components – the reader and the TAG. The reader is composed of a transceiver and an antenna. The transceiver generates a weak radio signal that has a range of about 4 inches. The radio signal is necessary to wake or activate the TAG and is transmitted through the antenna. The signal itself is a form of energy that is used to power the TAG.

The transponder is the part of the TAG which is embedded into the pucks used in the game. The transponder converts the radio frequency into usable power, as well as send messages. When the transponder is hit by the radio waves, the waves go up and down the length of the transceiver, oscillating. When the RFID has power, it wakes up the transponder. The transponder immediately upon being woken up, transmits all the information it has stored on it.

Once the Puck has been read and its stored value verified the game will advance the puck motor one notch. The puck falls out of the put motor assembly and rolls down a ramp into the puck bucket located at player station 4.

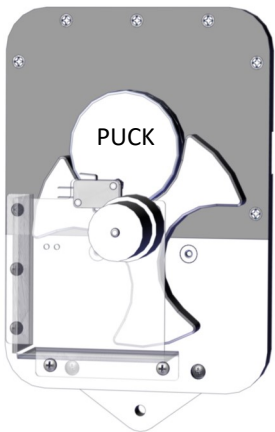
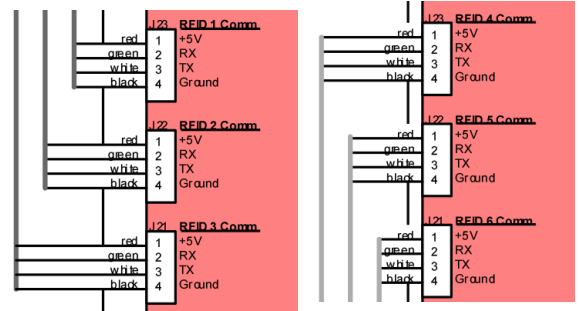
**NOTE: If the stored value of a puck doesn't match what has been programmed under puck value menu the game will flash "YELLOW" once and the puck will remain against the RFID reader. The game will not allow game play on that station until the puck has been physically removed from the game. Credits will stack.**

If a puck is unreadable, defective or contains no data, the unit will not be able to detect a puck has already been loaded to be read. The game will continue to allow play and pucks won will fill the up the prize chute and not be able to be read.



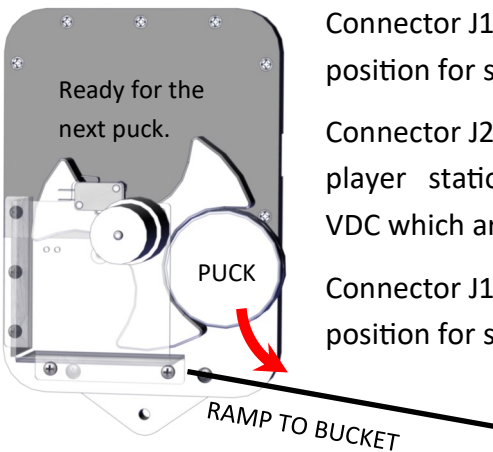
## RFID Readers Communication:

Each RFID reader is connected to the I/O board. I/O board one has on connector J23 station 1 RFID reader, connector J22 has station 2 RFID reader, and connector J21 has station 3 RFID reader. The I/O board supplies the +5 volts of DC power to each reader on pin 1. Pin 4 of each connector is DC common ground. Pin 2 is the receive line and pin 3 is the transmit line for serial communications back and fourth to the RFID readers.



Pictured is the read position when a puck has been dropped into the prize chute. The puck can land on either side. When the RFID reader successfully reads a puck and verifies its value is valid to the game the motor is activated. The motor turns the puck wheel 1/3 of a revolution before the switch encounters another notch to signify the next read position. The puck rolls out of the puck motor assembly, down a ramp, into the puck bucket.

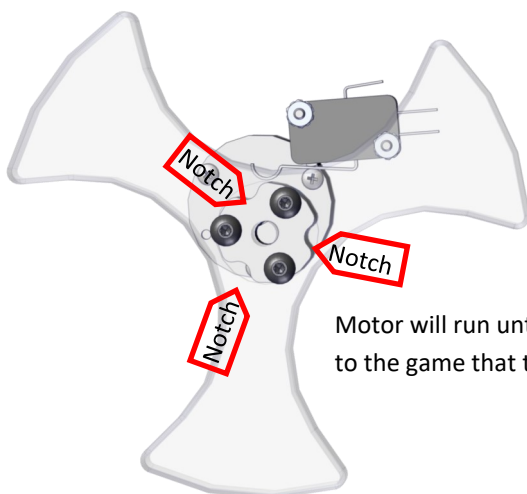
Connector J2, J4, and J6 on I/O board 1 at pin 6 has the puck motor signal for player stations 1 through 3. Signal is a ground. The motors always have +12 VDC which are supplied through the I/O boards.



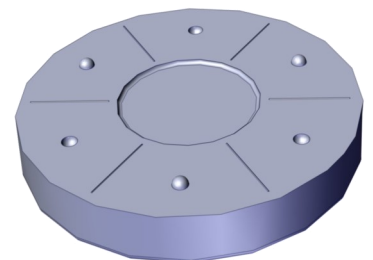
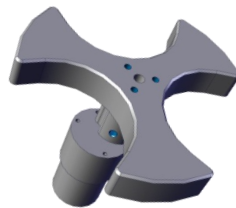
Connector J15 on I/O board 1 at pins 2 through 4 is the status for puck motor position for stations 1 through 3.

Connector J2, J4, and J6 on I/O board 2 at pin 6 has the puck motor signal for player stations 4 through 6. Signal is a ground. The motors always have +12 VDC which are supplied through the I/O boards.

Connector J15 on I/O board 2 at pins 2 through 4 is the status for puck motor position for stations 4 through 6..

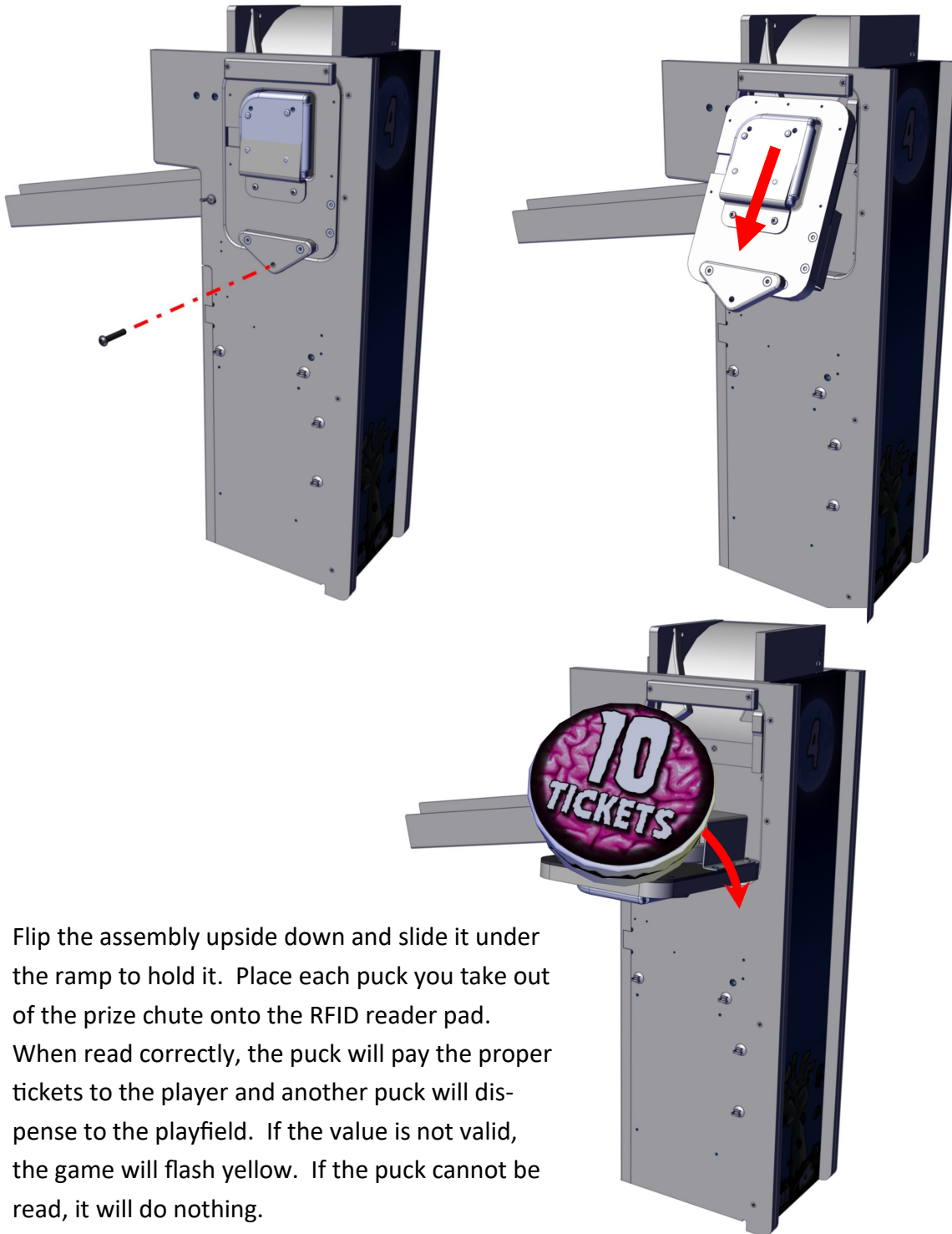


Motor will run until the switch hits a notch. This indicates to the game that the prize chute is ready to accept a puck.

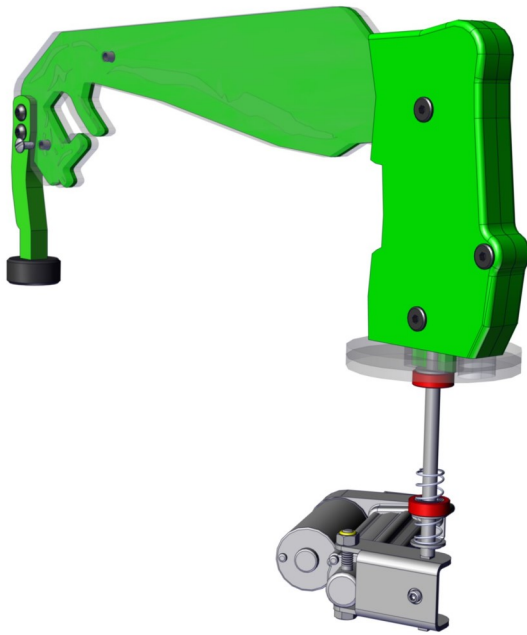


## Clearing Puck jams in the Prize Chute Assembly - DO NOT REMOVE DOME!

If the puck cannot be read, the value read from the puck is not in the table, or the motor has failed, pucks can collect in the prize chute. You do not have to remove the dome to clear this. Remove the bottom thumb screw that secures the RFID reader assembly. Lift from the bottom up and down.



Flip the assembly upside down and slide it under the ramp to hold it. Place each puck you take out of the prize chute onto the RFID reader pad. When read correctly, the puck will pay the proper tickets to the player and another puck will dispense to the playfield. If the value is not valid, the game will flash yellow. If the puck cannot be read, it will do nothing.



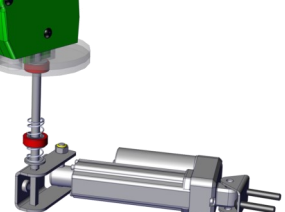
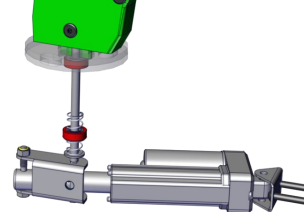
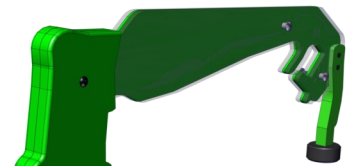
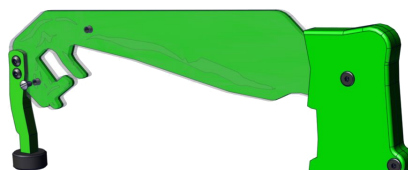
## Finger Assembly: Theory of Operation

The finger assembly when activated will attempt to push any puck in its path into the player's win hole. The arm is connected to a bracket which is mounted to a plunger on an actuator. When the player credits the game and pushes the button, the computer sends a command to the I/O board to begin the sequence to move the arm.

The I/O board sends a ground signal called the "Arm Drive" to a relay board for about 5 seconds. This causes the relay to engage reversing the voltage to the actuator. The actuator extends the plunger to a predetermined internal position. When the Arm drive signal is no longer present the relay disengages and the voltage is reversed again. The actuator then pulls the plunger

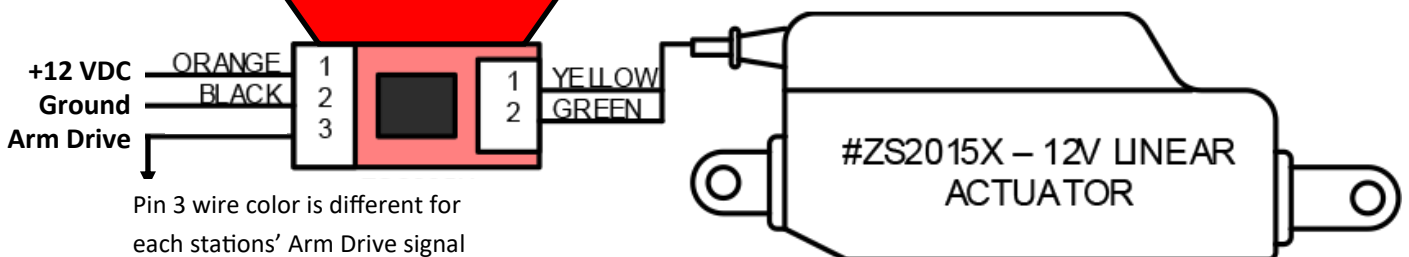
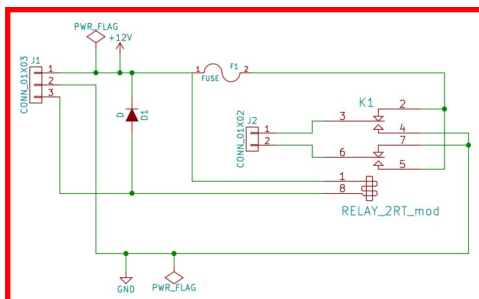
back to its home position. The voltage is always present at the actuator extended or not. The position is determined by the polarity of the voltage.

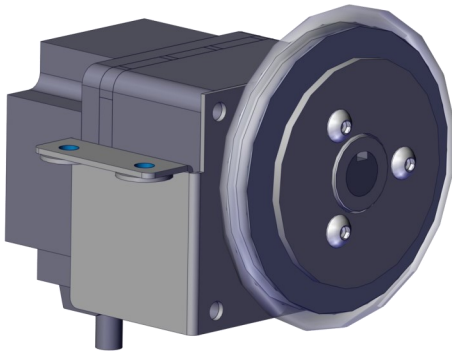
Connectors J2, J4, J6 of I/O board 1 on pin 4 has the Arm Drive signal for stations 1 through 3. Connectors J2, J4, J6 of I/O board 2 on pin 4 has the Arm Drive signal for stations 4 through 6.



Relay activated

Relay not activated





## Playfield Motor: ZS2008A =Gearbox ; ZS2008C = Controller

The motor used to spin the playfield is a Brushless DC motor with precision control. A special controller board is used to drive the motor and maintain precise speed. The motor speed controller maintains the speed of the spinning playfield to one revolution in 9 seconds.

The speed controller has internal protection to the motor and gearbox. If the internal protection is activated a LED indicator flashes a code pauses and repeats. See “Motor Controller Board LED FLASH CODE ERRORS” for list of errors.

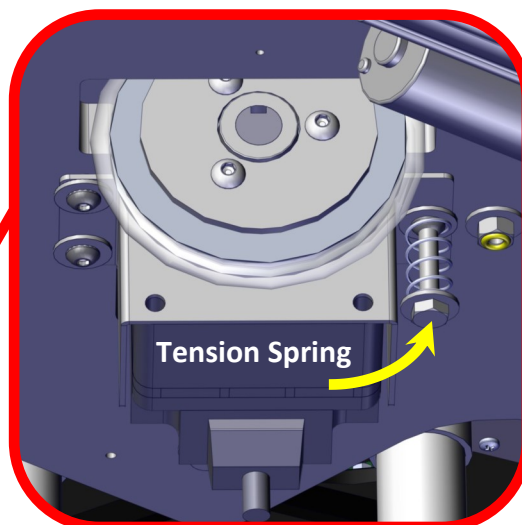
The speed controller has precision control to the motor and unless the motor or gearbox have been replaced it should not require any adjustments. If repairs have been preformed, located on the playfield are silver PEM studs. Use these and pick a spot on the table to time how long it takes for that PEM stud to do one full rotation. Adjust only the internal speed potentiometer. Do not adjust the other potentiometer, this controls the acceleration/deceleration time.

The Speed Controller has a small cable attached to CN2. This cable turns on the functions “Start/Stop”, “Run/ Break”, and “Int.VR”. No other interaction is required to make the motor run.

The motor is accessed from below the playfield at player station 5. The motor is anchored on the left side while the right side has a tension spring. This tension spring allows the O-ring to travel over uneven surfaces.

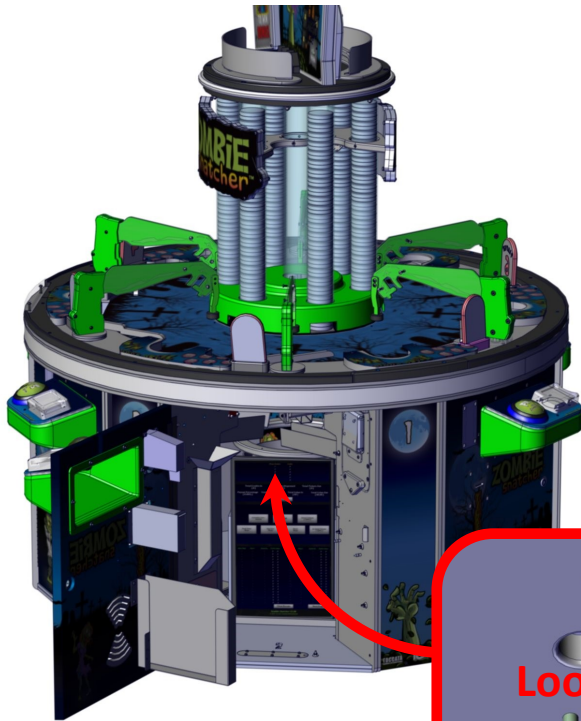
### ZS2008C Motor Controller Board LED FLASH CODE ERRORS

Error	Flash	Description
Overload Protection	2	Excess of rated torque (gearbox?)
Motor sensor	3	Cable to motor unplugged (DO NOT PLUG IN WITH POWER ON)
Overvoltage Protection	4	+24 supply exceeded 15%.
Insufficient voltage	5	+24 supply less than 25%.
Over speed error	6	Motor is exceeded 3500 r/min



**ZS2008**  
**Motor + Gearbox + Controller**

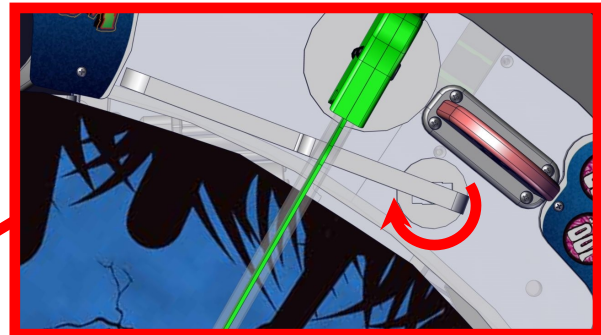
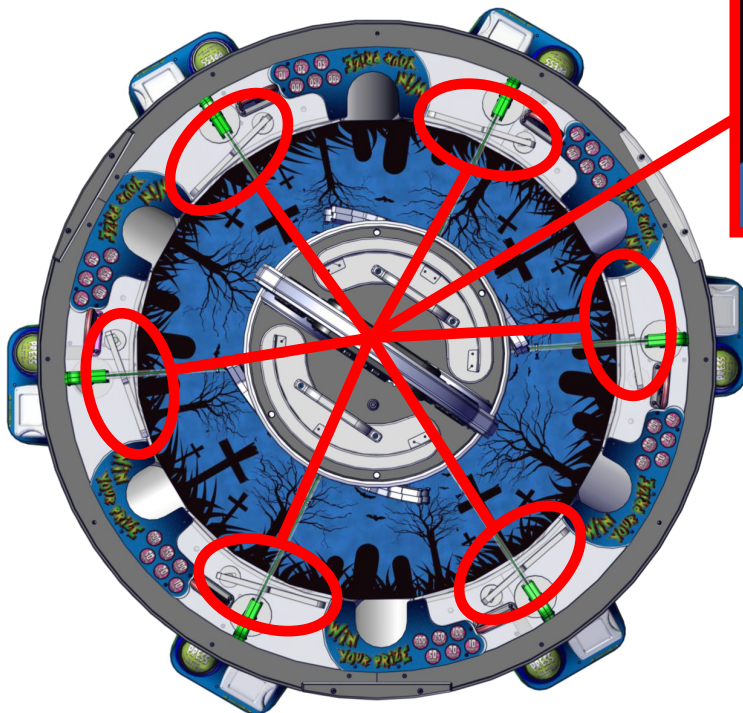
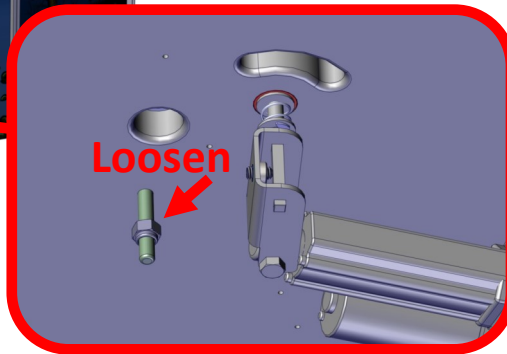




## Playfield Wheel Access

Step 1: (Note: dome is not shown for clarity)

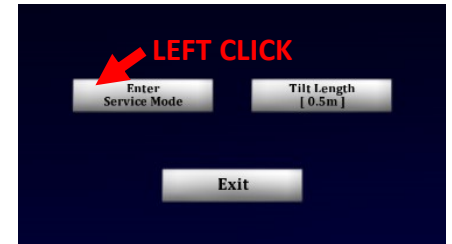
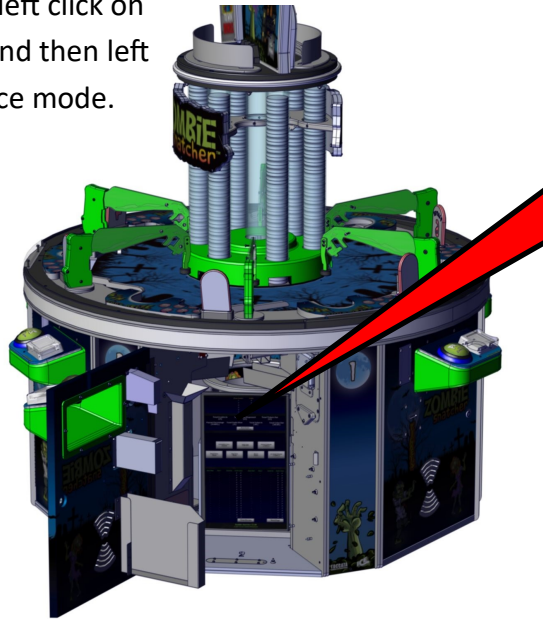
Follow the directions in “Playfield Access - Using the Safety Brace” to secure the dome when working under the dome. Loosen at each player station the nut that holds each player station’s puck diverter.



Turn at every station the puck diverter until it has cleared the playfield.

Note where the position of the diverter is before moving.

At player station 1 left click on “operator menu” and then left click on enter service mode.



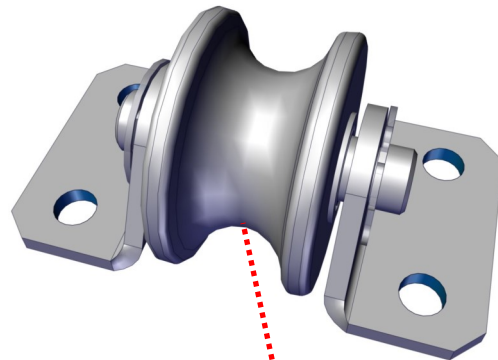
Each arm assembly will move to the service position. With a helper, lift the playfield up high enough to clear all arm assemblies. While holding the playfield in the air, left click on Enter Service Mode again. The arms will be back in the play position.

**WARNING \*\* DAMAGE WILL OCCUR TO THE FINGER ASSEMBLY IF THE ARMS ARE BLOCKED IN ANYWAY WHILE MOVING.**

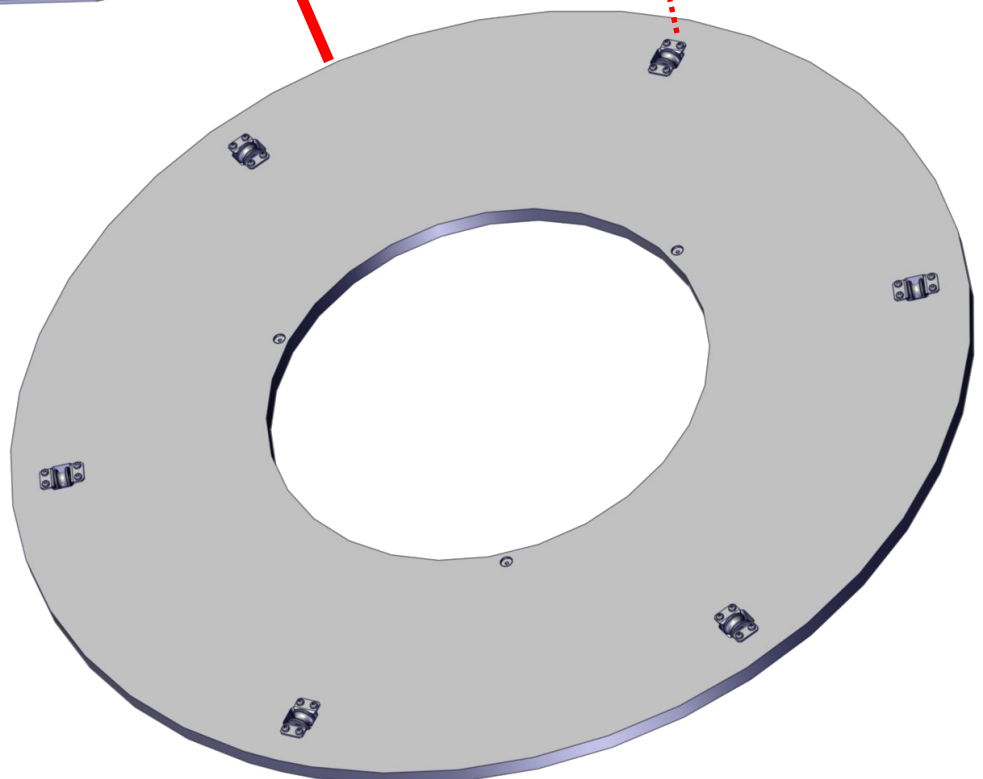




Lay the playfield onto the arm assemblies. Located underneath the playfield wood are wheels. They are held onto the playfield by 655 Square drive screws.



Underneath



## Cheat Sensor

To prevent customers from shaking the game to get pucks to fall in the prize chutes the game uses a “tilt” bobbin type sensor. The sensor balances a weight and when the game is rocked, the weight moves like a pendulum and hits the side of a bracket, completing the cheat circuit to sound an alarm.

When the cheat alarm is activated, the game will produce a loud noise and flash the Zombie Arm yellow. At that time it will still accept money but game play will not start until the alarm is over.



## AC / DC Power

AC power to the main power supplies is fused with a 6 amp slow blow type fuse for 110V users and 4 amp slow blow type fuse for 230V users. There are two DC power supplies used in the game. The +12 volts of DC is supplied by a KF2010 and +24 volts of DC is supplied by a ZS2010. The +24 volts of DC is used to power the speed motor controller board. The +12 volt DC power supply is used to power the actuators, puck motors, amplifier, dispenser motors, LED's, and I/O board.



## I/O Communication

Each I/O board communicates to the PC through an USB to serial adaptor. If these adaptors are replaced or moved to a different USB port the configuration of their port address can change. This will cause the game to loose communication to that I/O board. The proper configuration for I/O board 1 is port 1 and I/O board 2 is port 2. If the game has trouble communicating to a USB port, the game will flash all Zombie arms yellow and sound the tilt alarm. Once communication is restored, the game will stop tilting.

To confirm or change the port settings it is recommended to disconnect one of the two I/O boards to ensure you are changing the correct I/O board.

To confirm or change a I/O board to port:

Step1 - Plug USB keyboard in if not already plugged in and press “ESC” key.

Step2 - Left click on “START” at lower left of screen.

Step3 - Left click on “Control Panel”

Step4 - Left click on Device Manager

Step5 - Double left click on “Port (Com & LPT)”

Step6 - Right click on “Prolific USB-to-Serial Port (COM?)” ?=current port assigned to it.

Step7 - Left click on “Properties”

Step8 - Left click on “Port Settings”

Step9 - Left click on “Advanced...”

Step10 - Left click on the down triangle right of “COM Port Number”

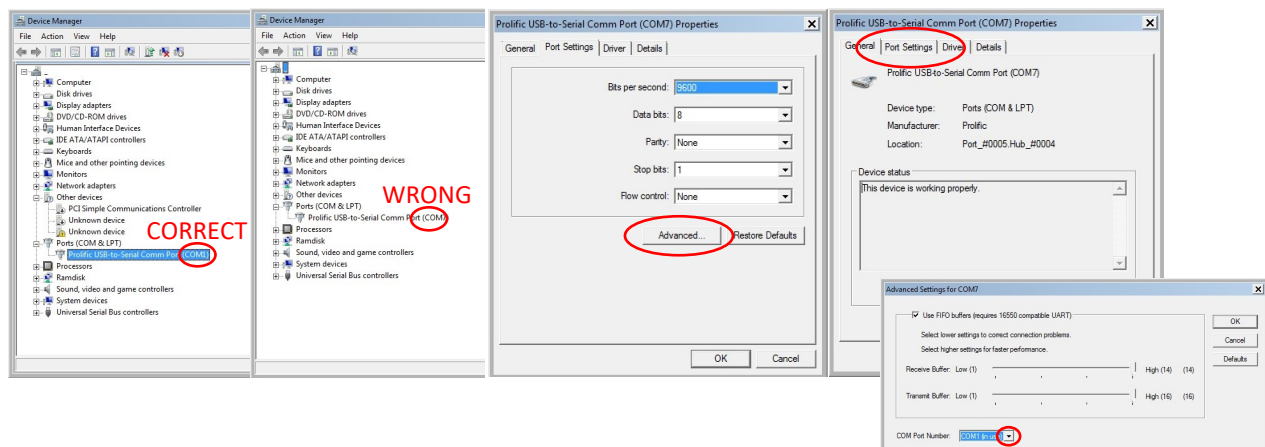
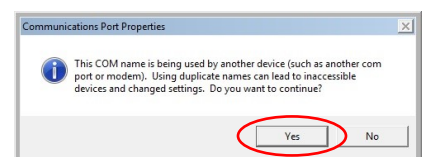
Step11 - Left click on “Port 1” for I/O board 1 or select “Port 2” for I/O board 2.

Step12 - Left click on “OK”

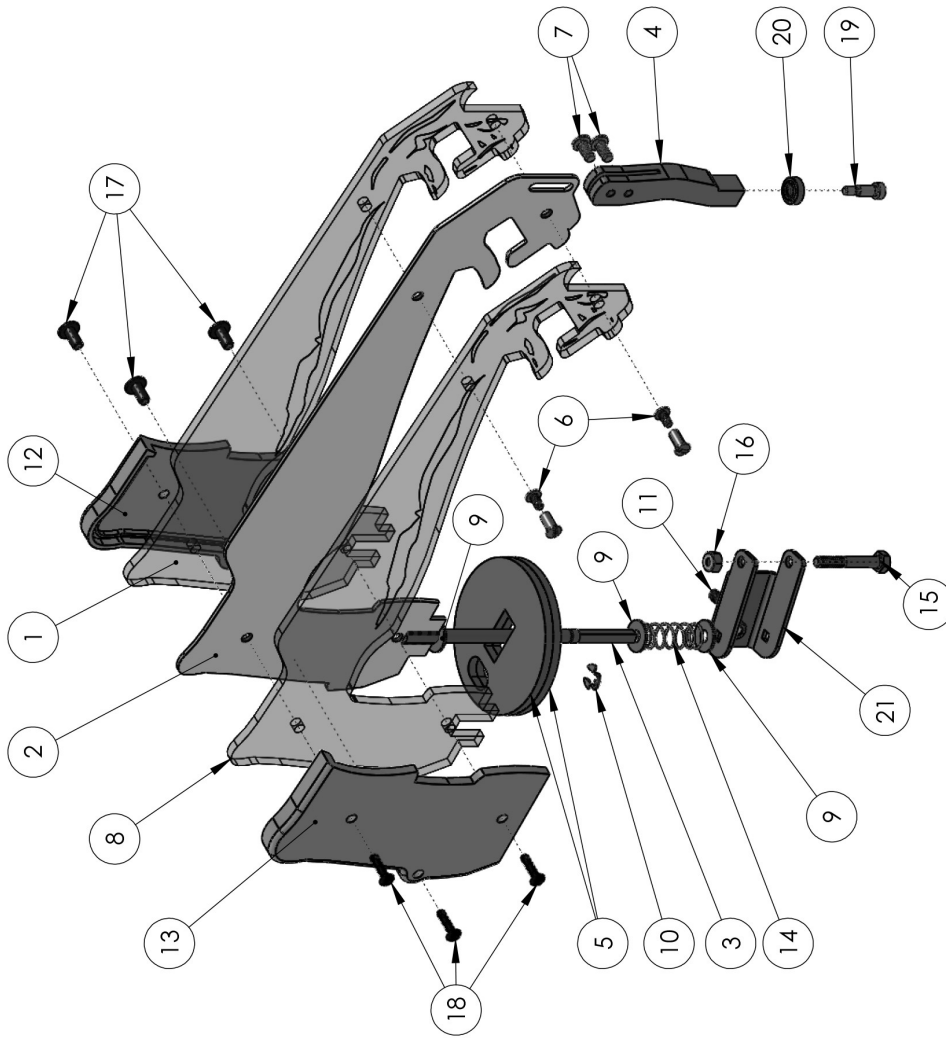
Step13 - If the PC informs you that port is in use, click “YES” to continue.

Step14 - Left click “OK” to exit.

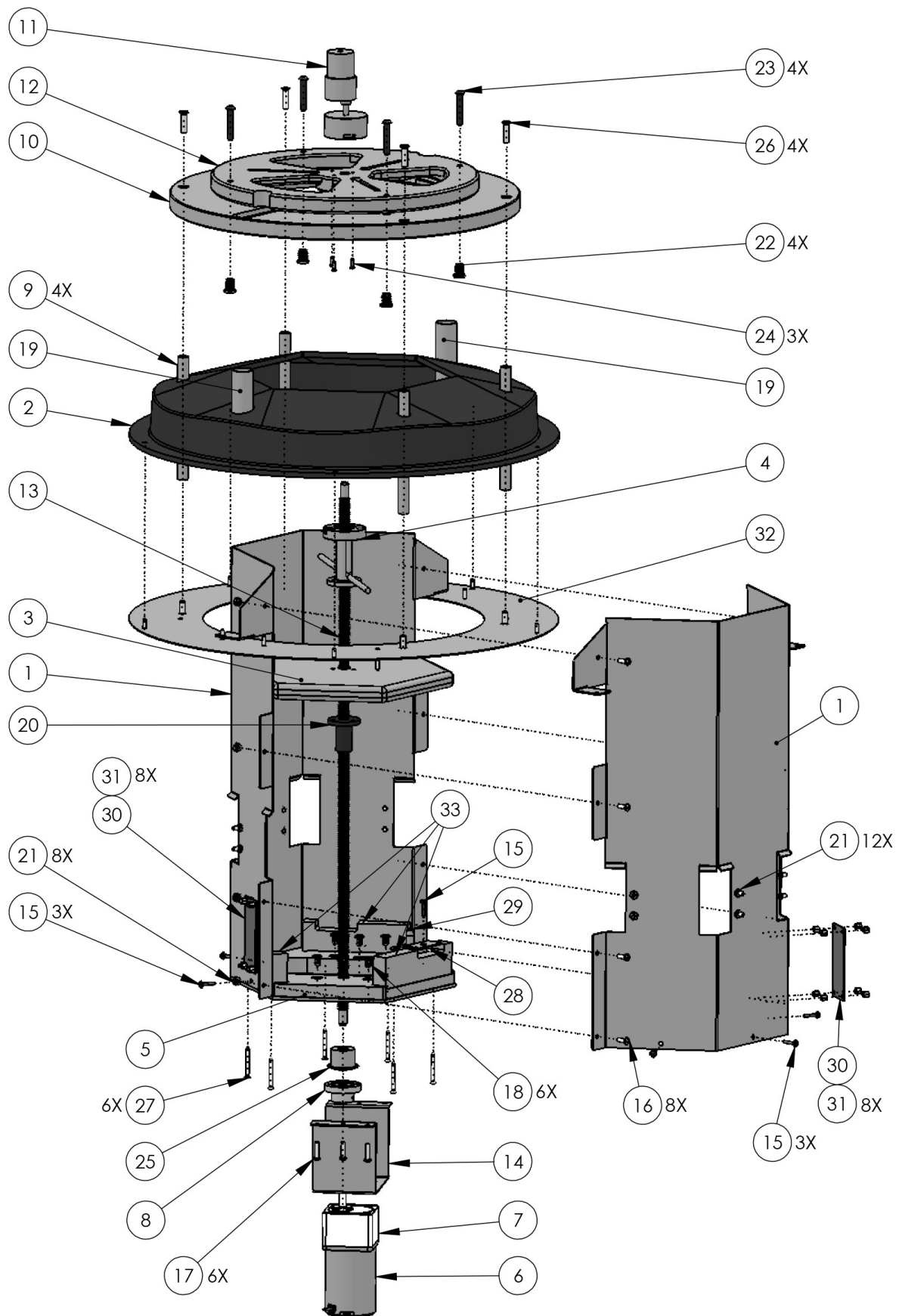
Step15 - REBOOT COMPUTER.



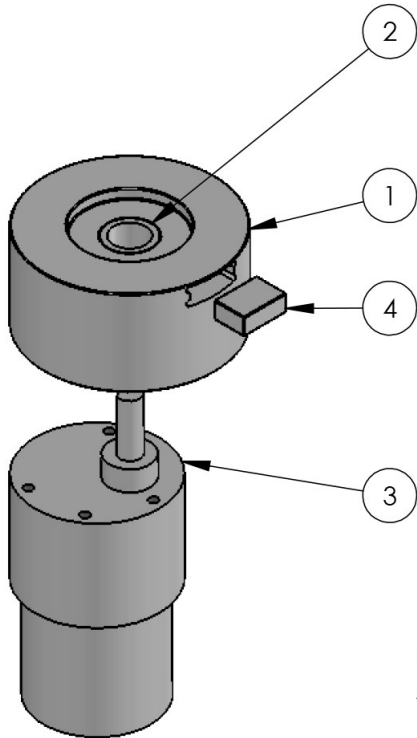
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ZS3006	ARM PLASTIC LEFT	1
2	ZS1009-1	ARM METAL	1
3	ZS1009-2	ARM STEM	1
4	ZS1008	FINGER	1
5	ZS3005	ARM BASE RING	2
6	AA6932	1/4 X 1/2 BINDING POST	2
7	6800	1/4-20 X 1/2 BSHCS (BLACK)	2
8	ZS3010	ARM PLASTIC RIGHT	1
9	6075	1/4 x 3/4 FLAT WASHER ZINC (USS)	3
10	AA6933	E-CLIP 5/16	1
11	AA6930	1/4-20 X 1/2 SET SCREW CUP NYLOCK	1
12	ZS3007	ARM LED RETAINER LEFT	1
13	ZS3008	ARM LED RETAINER RIGHT	1
14	IA1067	IA1067 [9001T29]	1
15	6202	1/4-20 x 1-3/4" LG. HHMB	1
16	PC60604	NYLOCK NUT, 1/4-20	1
17	6600	10-24 x 17/32" LG. JOINT CONNECTOR NUT (STAFAST)	3
18	6258	10-24 X 3/4 BSHCS	3
19	AA6957	10-24 X 1/4 X 1/2 SHOULDER BOLT W/NYLOCK	1
20	ZS1053	BEARING	1
21	ZS1017-1	ACTUATOR BRACKET	1



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ZS1025	PUCK RETURN HOUSING	2
2	ZS3043	PUCK RAMP	1
3	ZS3065	LIFT PLATE	1
4	ZS3011X	PUCK AGITATOR ASSEMBLY	1
5	ZS3067	ELEVATOR FLOOR	1
6	GF2008X	MOTOR 15W/12V (SD615-12A)	1
7	GF2008B	GEARBOX S6DA15B1A	1
8	GB1052	MOTOR COUPLER	1
9	ZS1027	STANDOFF	4
10	ZS3016	UPPER BEARING PLATE	1
11	ZS3030X	ZS TOP MOTOR ASSEMBLY	1
12	ZS3035	UPPER MOTOR PLATE	1
13	CB1252	1/2-8 8-START LEAD SCREW & NUT	1
14	ZS1030	MOTOR BRACKET	1
15	655	#8 x 3/4 SQ. DRIVE (BLACK)	7
16	AA6004	8-32 X 1/2 PPHMS (BLACK)	8
17	AA6831	8-32 X 3/4 PPHMS	6
18	6061	8-32 CAB INSERT (J-50111)	6
19	ZS1051	UPPER WIRE TUBE	2
20	BF8000	FLANGE	1
21	6004a	8-32 KEP NUT	20
22	PC60631	025-20 CABINET INSERT (J50115)	4
23	6281	1/4-20 x 1 1/2 BSHCS (BLACK)	4
24	6367	M3 X 10MM PPHMS	3
25	ZS1074	POLYCLUTCH	1
26	AA6645	1/4-20 X 1 PFHMS	4
27	6166	1-1/2 SCREW NUMBER 8 W/NIBS	6
28	CG1041	BRACKET (DOOR OPEN SWITCH) - P	1
29	E08973	SWITCH MOMENTARY ACTION (CHER	1
30	ZS2035	RELAY BOARD	2
31	PC60643	6-32 x 1/4 HH SPACER	16
32	ZS1014	ALIGNMENT PLATE	1
33	ZS3149	LIFT HOME SPACER	3

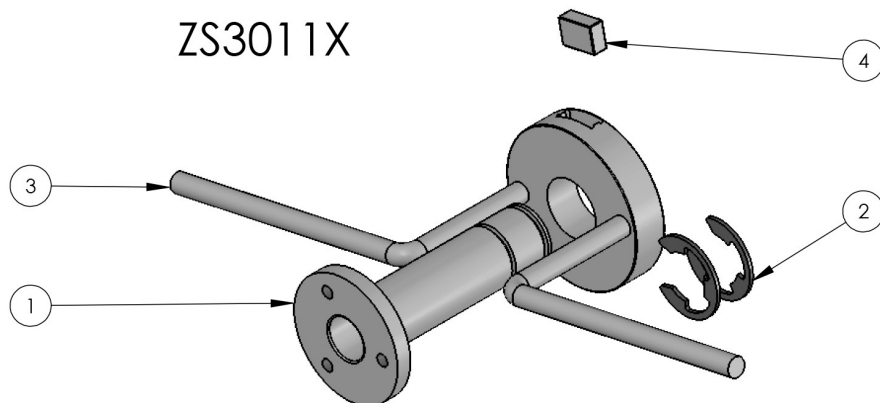


ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ZS3030	UPPER MAGNET HOUSING	1
2	6391K172	BRONZE BUSHING (MCMaster CARR)	1
3	ZS2009	12V DC 28 RPM-CYTRON SPG30-150	1
4	CH1052	MAGNET	2



ZS3030X

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	ZS3011	PUCK AGITATOR BUSHING	1
2	97431A360		2
3	ZS1028	PUCK AGITATOR	1
4	CH1052	MAGNET	2



ZS3011X



# WARRANTY POLICY

ICE Inc warrants that all of its products will be free from defects in material and workmanship.

When placing a warranty request, please be prepared to provide the following information:

- ☐ Serial Number of Game or Bill of Sale
- ☐ Machine Type
- ☐ A Detailed Description of the Equipment Fault Symptoms

ICE product, including, Sam's Billiards, Neolith, Game Concepts & Funway is warranted as follows:

- ☐ 180 days on the Main PCB, Computers and Motors
- ☐ 1 Year on LCD/LED Monitor Panels (through Manufacturer)
- ☐ 90 days on all other electronic/mechanical components (i.e. DBV's, Ticket Dispensers)
- ☐ 30 days on all parts and repaired items

ICE Inc shall not be obligated to furnish a warranty request under the following conditions:

- ☐ Equipment has been subjected to unwarranted stress through abuse or neglect
- ☐ Equipment has been damaged as a result of arbitrary repair/modification attempts
- ☐ Equipment that has failed through normal wear and tear (bulbs, balls, buttons, etc.)

ICE Inc will assume no liability whatsoever for costs associated with labor to replace defective parts or travel time associated therein.

All defective warranty covered components will be replaced with new or factory refurbished components equal to OEM specifications. ICE Inc. (or the manufacturer) will cover domestic (U.S.A.) UPS ground (or comparable shipping means) freight costs to the customer during the warranty period. Expedited shipments are available for an additional charge at the customer's own expense.

Defective parts are to be returned to ICE Inc. (or the manufacturer), at the customer's expense, in a timely fashion. They should be packaged following UPS guidelines to insure safe transit back to ICE. Adequate value freight insurance should be used in case the shipper damages the item and a claim must be filed.

ICE distributors are independent, privately owned and operated. In their judgment, they may sell parts and/or accessories other than those manufactured by ICE Inc. We cannot be responsible for the quality, suitability or safety of any non-ICE part, modification (including labor) that is performed by such a distributor.

**Innovative Concepts in Entertainment  
10123 Main St.**

**Clarence, NY 14031**

**Phone #: (716) - 759 – 0360**

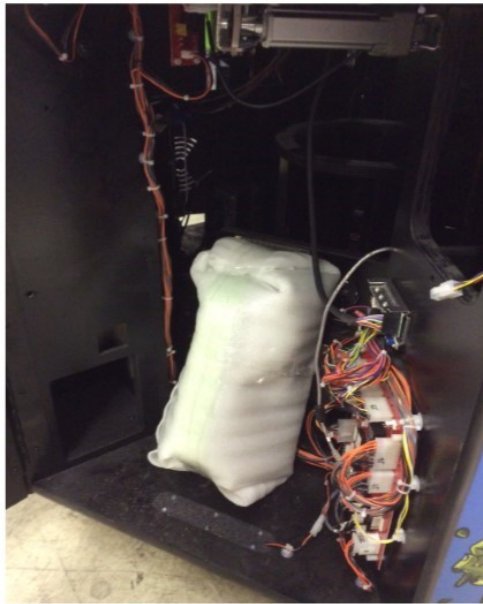
**Fax #: (716) – 759 – 0884**

**[www.icegame.com](http://www.icegame.com)**

# ZS Control Panel Assembly

1

Remove The Wrapped Control Panels to your Zombie Snatcher Game inside each station.



2

Install the Control Panels as shown.



3

Using a 3/8" Driver, attach the Control Panels with Hardware provided.

6x Carriage Bolts 6x Kep Nuts



4

Insert The Button Switch and twist into position.

Attach the 12V line.

Power Up Your Machine-

