



# OWNERS AND SERVICE MANUAL

## INNOVATIVE CONCEPTS IN ENTERTAINMENT INC.

10123 MAIN STREET, CLARENCE, NY 14031

SERVICE: 1-716-759-0360

FAX: 1-716-759-0884

E-MAIL: [service@icegame.com](mailto:service@icegame.com)

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



# INTRODUCTION

## GAME FEATURES

The new MINI CRANE by I.C.E. was designed with the operator in mind. Reliability, low maintenance, available custom cabinetry, and all metal exterior construction are some of the most important design features to be added to the newest member of our crane family.

To keep things easy for the operator, all of our best features have been carried over from our other designs. Things such as an all-metal exterior, powdered epoxy paint, tempered glass windows, and full-featured programming are standards you've come to expect from I.C.E. products.

The MINI CRANE uses state of the art electronics with a new drive circuit for all motors. In our new design, even direct short circuits can't damage the motor or coil drivers. The protection is built into the drivers themselves! Another advantage is that the new board incorporates modular driver circuits so the same main board can be used on multiple products.

This crane has been made to give you a crane that is competitive with other smaller cranes of its size, but it has been engineered to leave the competition behind. Every aspect of small crane design has been scrutinized and improved to bring it up to the standards necessary to compete in today's market.

We hope you thoroughly enjoy your ownership experience with your new MINI CRANE. If you have any questions or comments, please contact our service department at: (716) 759-0360.

## GAME PLAY

As coins are inserted into the MINI CRANE a coin in sound will be heard. When sufficient coins have been inserted, the game sound starts, the claw clicks closed and re-opens, which signals the start of the game. The crane will position its self in the middle of the "play field" and remain there, with the cranes sound theme playing until the player is ready.

When the player has moved the joystick or pressed the buttons, to move the crane, the timer on the right display will begin to count down. The player will position the crane above the prize and they are attempting to win and press the drop button to lower the claw.

If the nudging option is on, then the player will have the ability to keep "nudging" the claw down each time the button is pressed to hone in on the chosen prize. If the nudging option is off, then the player will have only one chance to drop the claw.

When the claw is fully dropped it will close and retract to its upper most position. The crane will then automatically position its self over the prize chute at the rear of the cabinet. The claw will open, releasing the prize (if grabbed) into the prize chamber. The player can now remove the prize from the chamber through the prize door located in the front, lower left corner of the game. The game is now in its home position and is ready for the next player in line.

# SET-UP / TESTING / MAINTENANCE

## SAFETY PRECAUTIONS

IMPORTANT: FAILURE TO FOLLOW THESE DIRECTIONS CLOSELY COULD CAUSE SERIOUS DAMAGE TO YOUR GAME.

WARNING: WHEN INSTALLING THIS GAME, A 3 PRONG GROUNDED RECEPTACLE MUST BE USED. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY

TO YOURSELF OR OTHERS. FAILURE TO USE A GROUNDED RECEPTACLE COULD ALSO CAUSE IMPROPER GAME OPERATION, OR DAMAGE TO THE ELECTRONICS.

DO NOT DEFEAT OR REMOVE THE GROUNDING PRONG ON THE POWER CORD FOR THE SAME REASONS

AS GIVEN ABOVE. USING AN IMPROPERLY GROUNDED GAME COULD VOID YOUR WARRANTY.

## GAME SET-UP

BEFORE PLUGGING THE GAME IN, OR TURNING IT ON, BE SURE THE GAME HAS BEEN SET TO THE PROPER VOLTAGE. YOUR GAME SHOULD COME PRE-SET FROM THE FACTORY CORRECT VOLTAGE, HOWEVER IT IS A GOOD IDEA TO CHECK THE A.C. WALL RECEPTACLE VOLTAGE BEFORE PLUGGING THE GAME IN.

## ASSEMBLY INSTRUCTIONS

1. Carefully un-box the game from its packaging.
2. Using the supplied keys, unlock the front door of the cabinet.
3. Cut all tie wraps holding the wagon assembly and crane in place.
4. Plug the game into a three prong grounded receptacle. NOTE: The appliance must be positioned such that the plug is accessible during use.
5. The game is now ready for start up.

## TESTING

After the initial setup, it is time to test your game for proper operation.

1. Locate the game in its permanent location.
2. Be sure the game has been properly plugged into a 3 prong grounded outlet, and that the receptacle is in good working order.
3. If using an extension cord, be sure it is a 3 prong grounded type of at least 16Ga.
4. Verify that the game is set up for the proper voltage, and turn the power to the game on.
5. The game will run through a test mode at every startup. See test mode explanation in the programming section for details.
6. Insert coins/bills into the machine at least ten times into the coin mech/bill acceptor to assure proper operation
7. Check the credit and prize counters for proper
8. operation.
9. Check game volume during busy time at location to set it at the proper level.

## CLEANING

Regular cleaning of this game will keep it looking new, and greatly enhance its appeal.

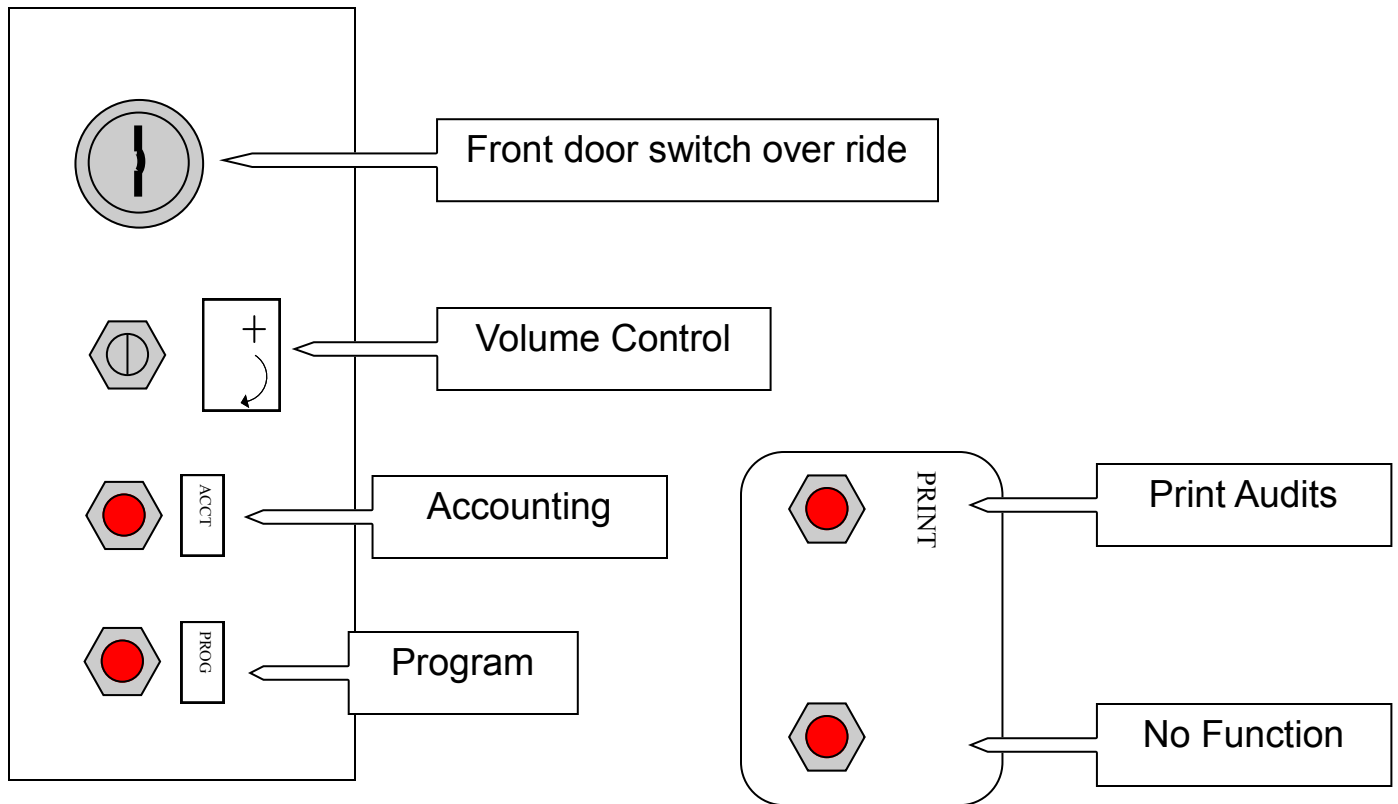
Clean the windows of your MINI CRANE with a standard window cleaner such as Windex®

Clean the cabinet sides with a good cleaner such as "Fantastic" or "409" and a soft rag. A mild soapy solution can be used. You may use a furniture polish when finished to protect the game and make it look more attractive,

NOTE: DO NOT USE ALCOHOL, THINNERS OF ANY KIND, OR PINBALL PLAY FIELD CLEANERS ON ANY OF THE CABINET SURFACES ESPECIALLY THE DECALS.

IF YOU HAVE ANY QUESTIONS OR COMMENTS REGARDING INSTALLATION OR PROPER FUNCTION OF YOUR GAME, PLEASE CALL OUR SERVICE DEPARTMENT AT 1-716-759-0360.

## Button Layout and functions.



### **Front Door over ride:**

This is a key switch that allows you to operate the game in game mode with the door open. When not enabled, the game will remain in program mode as long as the door is kept open.

### **Volume Control:**

Turning the this knob will increase or decrease game volume levels.

### **Accounting Button:**

This button enters accounting mode but does not result in a hard copy.

### **Program Button:**

This button is used when you wish to change program settings.

### **Print:**

This button is used when you wish to print a hard copy of the audits.

### **No Function Button:**

This button is not connected and has no function.

# PROGRAMMING

## ENTERING THE PROGRAMMING MODE

To enter the programming mode, open the front door and press the button marked PROG. Located on the main board housing inside the front door and the crane will move to the front center of the game.

Once you are in the programming mode move the joystick forward and backward or use the forward button to move through the modes. To change the value of the mode move the joystick left and right or use the right button. Once all options have been set, press the drop button and the game will return to regular game play with the new settings.

See next page for mode options.

ALVACO

0	Tipo de juego	1	1	1	0	Izquierda, Derecha, Frente, Reversa, Bajar garra en pausas	00	01
					1	Izquierda, Derecha, Frente, Reversa, Bajar garra de un solo pulso		
					2	Derecha, Frente, Bajar garra en pausas		
					3	Derecha, Frente Bajar garra de un solo pulso		
					4	Un solo movimiento, Bajar garra un solo pulso		
1	Tipo de Juego	0	1	0	0	Juego Normal	01	00
					1	Jugar hasta ganar		
2	Tiempo	10	60	20	10 a 60	Segundos, (aumenta en bloques de 5 segundos)	02	20
3	Monedas	1	10	10	0	Juego Gratis	03	10
					1 a 9	Monedas requeridas para jugar		
4	Billetes	0	n/a	n/a	n/a	n/a	04	00
5	Tipo de contador	0	0	0	0	Contador de creditos	05	00
					1	Contador de monedas		
6	Atracción	0	30	15	1 a 30	Minutos para sonidos de atracción	06	15
7	Tipo de Atracción	1	2	2	1	Solamente movimiento	07	02
					2	Audio y Movimiento		
8	Fuerza Manual	40	99	60	40 a 99	Fuerza de cierre de la garra aumenta de 1 en 1 (99 máximo)	08	60
9	Auto-Fuerza	0	99	40	0	Auto fuerza apagado	09	60
					40 a 99	Fuerza de la garra en automático (99 máximo)		
10	Velocidad Frente/Reversa	10	20	20	10	Velocidad baja	10	20
					20	Velocidad alta		
11	Velocidad izquierda/derecha	10	20	20	10	Velocidad baja	11	20
					20	Velocidad alta		
12	Velocidad hacia arriba	15	20	20	15	Velocidad baja	12	20
					20	Velocidad alta		
13	Velocidad hacia abajo	15	20	20	15	Velocidad baja	13	20
					20	Velocidad alta		
14	Tiempo a la derecha	0	40	07	0 a 40	Tiempo en cuartos de segundo que la grua se mueve a la derecha al insertar la moneda (inicio de juego)	14	07
15	Tiempo hacia enfrente	0	40	5	0 a 40	Tiempo en cuartos de segundo que la grua se mueve hacia enfrente al insertar la moneda (inicio de juego)	15	05
16	Costo del peluche	10	90	50		Monedas de a 5 por cada pieza de peluche.	16	05
17	Payout	3	30	15	20 a 50	Porcentaje del payout deseado	17	33
18	Boletos	n/a	n/a	n/a	n/a	n/a	18	00
19	Boletos si pierdes	n/a	n/a	n/a	n/a	n/a	19	00
20	Ajustes de fábrica	0	1	0	0	Normal	20	00
					1	Reiniciar ajustes de fabrica hasta la siguiente vez que se encienda la máquina		
21	Centrado garra (enc/apag)	0	1	0	0	La opción centrada es apagada	21	00
					1	La opción centrada es encendida		
22	Cierre de garra	0	1	1	0	Cierre al iniciar juego (demo) es apagada	22	01
					1	Cierre al iniciar juego (demo) es encendida		
23	Juegos por crédito	1	9	1	1 a 9	Número de juegos por crédito	23	01
24	Promociones	0	9	0	0 a 9	Número de monedas consecutivas para obtener un juego gratis	24	00
25	Subir/Bajar Pueba de motor					Modo diagnóstico El display derecho cambia 0-1 se activo switch para subir, 0-2 se activó switch de bajada, 0-3 Ambos switches se activaron.		
26	Izq/Der Prueba de motor					Modo diagnóstico El display derecho cambia de 0-1 si se activa el switch izquierdo		
27	Frente/Rev prueba de motor					Modo diagnóstico El display derecho cambia de 0-1 si se activa el switch de reversa		

CS U6 7.14A

## Printer programming setup instructions

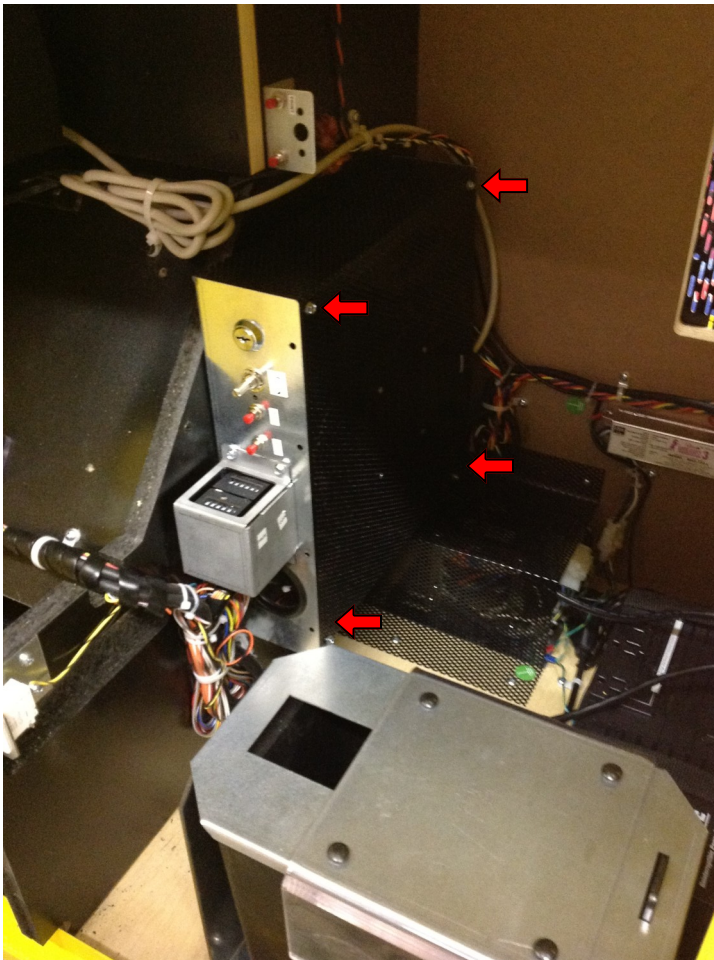
Before you use the printer interface board you should attach the board to the supplied programmer interface and using the serial port on your PC program the board. The following are instructions to remove the board from the crane and connect to a computer for initial programming.

### Removal of board from crane

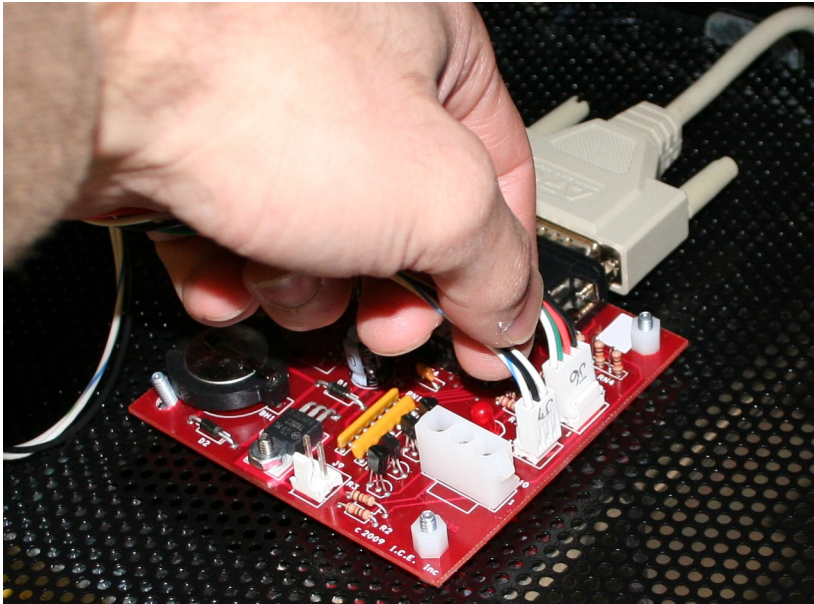
Turn power off at the UPS



Remove four screws securing PCB cover

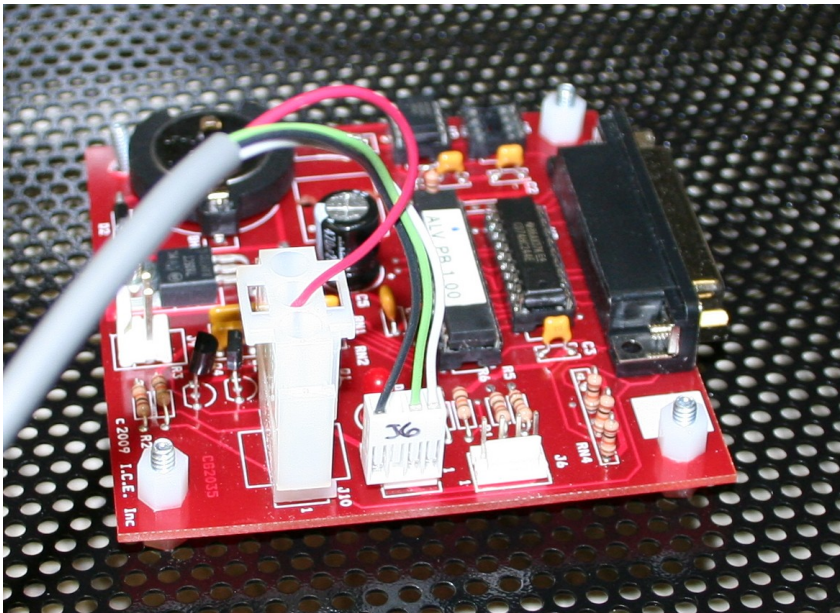


Unplug both connectors from inside panel, and remove printer cable

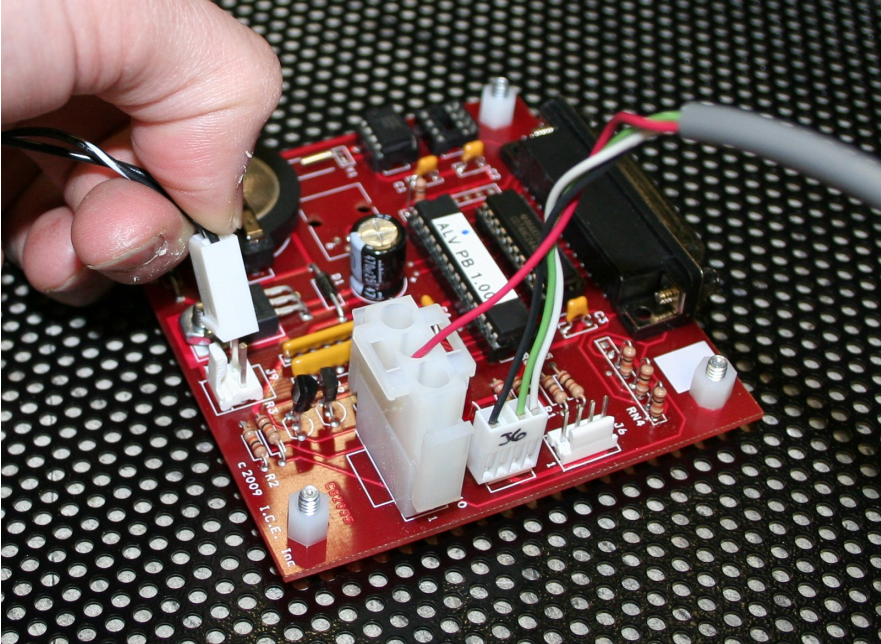


Take PCB and cover to computer with a 9 pin serial port on it. You should have a terminal program installed on the computer being used; we have included a free program called Tera Term.

Connect programmer interface cable to printer PCB at J6 and J10 as shown below, and connect the 9 pin serial connector to computer



Connect the power adaptor at J9 then plug adaptor into wall outlet or UPS if using a notebook computer.



### **Programming on the PC**

Insure that you have the serial parameters set to 9600 baud, 8 bits, no parity, 1 stop bit, and no handshaking.

When you attach the board to the interface and plug it in you should see the red LED blink. If not then the board does not have power and you should check to see that 12 Volts is going into J9 and that 5V is coming out of the middle pin of J10

Attach the serial connection to your computer and start the terminal program with the above parameters.

Type “ccc” without quotes and a menu will show up if everything is working well. Be sure that they are lower case because upper case “C” will not work. Navigate the menu by typing the first number for the item you want to change.

Press 6 to initialize the board first. This will zero all the counters and clear all the text.

Press 5 to set the time and date

Select the rest of the numbers and entering the appropriate data will complete the setup.

Some things you should know about the entry data. If you make a mistake in spelling you need to just hit enter and then re-enter the data, backspace does not work. The time is based on a 24 hour clock so you need to enter 13 for 1 PM. The text fields are limited to 20 characters. You can enter less by hitting the enter key, but when 20 characters are entered it will display the menu again so that you will not have to hit return.

Once initial programming is complete installation is the reverse of removal.

## Entering the Accounting Mode

To enter the accounting mode, open the front door and press the button marked ACCOUNT. Located on the main board housing inside the front door. The left displays will flash between "cr" (credits) then the number of credits 1 - 9999. If the operator presses the drop button the displays will flash "pl"(plush), then the number of plush that has passed through the sensor. These numbers can never be reset and WILL NOT match the numbers on the mechanical counters from the counters. It is advisable that the owner, note this difference so that they will be able to track actual software coins/credits and plush out vs. mechanical counters for a counting purposes.

## Test Mode Explanation

Every time that the game is powered up, of the door is closed, the game will run through a test mode to check the following items.

- HOME BACK SWITCH
- FRONT/BACK MOTOR
- PRIZE SENSOR
- HOME LEFT SWITCH
- LEFT/RIGHT MOTOR
- OUT OF RANGE
- UP SWITCH
- CREDIT/COIN DISCONNECT
- E<sup>2</sup> (MEMORY)
- DOWN SWITCH
- CLAW CLOSE, CLAW OPEN

If any of the above items are malfunctioning, the game will light the 4 decimal points on the podium displays. This will alert the operator that there has been a problem. The operator needs only unlock and open the front door and the error codes will be displayed one at a time on the left display. To move to the next error code the operator needs to press the drop button. Repairs should be made to those areas in which errors have been logged. When all codes have been seen and the door is closed the game will reset error codes, run through a test mode to check for proper operation and if all is well, game play can start, if the 4

decimals will once again light up, the operator will need to check the error codes again. The play can continue to the best of the machines abilities, with problems, until the errors are corrected. At no time should the game be inoperable unless a key component is damaged.

Error code 10/11 will alert the operator that the game has paid out 8 too many or 8 too little pieces pf plush then in auto percentaging. If this error is logged the game will automatically revert to MANUAL settings until one of the following options is changed. (COST OF PLUSH, AUTO % MIN., % PAYOUT, OR GAME COST)

This is why it is imperative that the manual setting be setup before auto percentaging is used.

**NOTE:** Changing one of these options will reset error code 10/11 and the game will begin auto percentaging with the new settings.

**NOTE:** Some items on the list can not be detected by the game and require that the operator watches for these actions to be performed during the test mode.

### Error Codes

- |    |                         |
|----|-------------------------|
| 1  | E <sup>2</sup> (Memory) |
| 2  | Prize Sensor            |
| 3  | Up Sensor               |
| 4  | Down Sensor             |
| 5  | Left/Right Sensor       |
| 6  | Front/Back Sensor       |
| 7  | Left/Right Motor        |
| 8  | Front/Back Motor        |
| 9  | Counter Disconnect      |
| 10 | Out Of Range (High)     |
| 11 | Out Of Range (Low)      |

# MANUAL SETUP / PERCENTAGING

## OVERVIEW

Although our crane offers the option of being able to be set up for MANUAL or AUTOMATIC PERCENTAGING modes, many operators prefer to use the MANUAL percentaging mode for a number of reasons.

**NOTE: THE FOLLOWING INFORMATION IS NOT APPLICABLE TO CANDY CRANES. CANDY CRANES ARE GENERALLY SET UP AS PAY 'TILL YOU WIN AND ARE NORMALLY SET UP FOR THE SHOVEL OR SCOOP TO GRAB AS STRONGLY AS POSSIBLE.**

When Manually percentaging your cranes, ALL of the following factors may affect your payout:

- Claw open position
- Claw closed position
- Claw Slider positioning
- Claw shape
- Claw Strength
- Size and Texture of the Plush
- Packing of the Plush
- Type of Customer

Basic EXPERIENCE and EXPERIMENTATION will determine the best set-up for you. Our cranes offer all of the popular adjustment options, so you can easily set your crane up to work just as any other cranes you may have previously used.

The above mentioned factors are described in greater detail below. We will review all of these in detail, so you will know better how to set up your game.

**NOTE: IF YOU ALREADY KNOW HOW ALL OF THE ABOVE MENTIONED FACTORS AFFECT YOUR EARNINGS, YOU MAY PROCEED TO THE **SETUP** SECTION.**

## CLAW OPEN POSITION

The CLAW OPEN POSITION is determined by how you set the adjustable washer that is located under the solenoid plunger. This should be adjusted so that the claw will go around one plush prize, but will not go around more than one. This is important so you can limit the payout and more accurately keep track of your prize count (if you have a prize sensor). It is especially important to adjust the claw open position if you use small or beanie type prizes. If the claw opening is too large, you could pick up multiple prizes at once very easily.

This open position can be easily changed by ROTATING the "Saw Blade" shaped cam washer located just under the solenoid plunger. Loosen the Allen head bolt under the claw assembly, rotate the washer until the claw open position what you want, then re-tighten the Allen bolt.

## CLAW CLOSED POSITION

The CLAW CLOSED POSITION is important for determining the OVERALL grab or "appearance" of grab of the claw. Normally, the claw closed position is set so that when the solenoid is engaged, the claw appears to close fully. For the most part, the prizes are big enough that the tips of the claw can be set up to be slightly apart when the solenoid is energized. Normally you do not want the tips to bang together as they can lock into each other if they overlap too far, then even when the solenoid releases, the claw tips are stuck together. For this reason we generally recommend that you keep about a "dime" sized space between the claws when they are closed. Of course you can also adjust this opening size to anything you would like.

To adjust the claw closed position, loosen the bottom collar on the solenoid housing, and raise

# MANUAL SETUP / PERCENTAGING

or lower the position of the collar to adjust the closed position of the claws. Push the solenoid plunger in by hand to verify the claw position and re-tighten the collar.

## CLAW SLIDER POSITIONING

The job of the CLAW SLIDER is to determine the ACTUAL grab of the claw. This actual grab however, will change based on where the claw contacts the plush. This change is what actually makes the game exciting to the customers and allows for more challenging game play.

The slider will move up and allow the claw to open whenever there is lateral (side to side) pressure exerted on the claw tips. When the pressure is removed the claw instantly returns to the closed position.

Since the lateral (side to side) pressure against the claw tips is what allows the slider to function, the shape of the claw will influence how easily the slider will work. (For more on claw shape, read the claw shape section of the manual).

The claw slider is adjusted by the position of the upper collar on the solenoid body. If you set the collar against the slider, it will not function at all. This effectively locks the slider out. This is "usually" what is done for the auto-percentaging mode.

If the collar is adjusted for a larger gap, the claw will open further. The bigger the gap, the more the claw grab is actually limited.

You may wish to adjust the slider so that a grab of an arm, leg or hand will not work, but a grab of the body will.

You may wish to set the slider so that even a body grab won't work, but a grab across the body and shoulder will.

NOTE: THIS ADJUSTMENT HAS THE MOST IMPACT ON YOUR PERCENTAGING. ALLOWING THE SLIDER MORE OR LESS MOVEMENT WILL CHANGE YOUR OVER-ALL PAYOUT PERCENTAGE.

Play around with the upper collar positioning to get an idea of how this adjustment works.

## CLAW SHAPE

CLAW SHAPE will determine how easily the plush is grabbed. A rounder shape will "cradle" the plush more making it easier to pick up plush. You will want to use this shape (see illustration) if you have large or heavy plush and are having a difficult time dispensing enough product.

On the other hand, if the game consistently pays out too much, you may wish to change the shape of the claw if none of your other adjustments will percentage the game properly. You will want to bend the claws into more of a "HEART" shape. (See illustration) This will allow the plush to slide more easily through the claws.

## CLAW STRENGTH

CLAW STRENGTH can also be used to fine tune your payout percentages. By increasing claw strength from lowest power (40) to (99) highest you can adjust the strength of the solenoid. You will normally want to keep your claw strength between 80-99 unless you are using very light prizes.

## SIZE AND TEXTURE OF PLUSH

The size and texture of plush will had a dramatic impact on how your game pays out.

Under normal circumstances, the closer you can keep the prizes to having the same general size and weight, the easier it will be to get consistent payouts. While it is sometimes necessary to mix

# MANUAL SETUP / PERCENTAGING

different size prizes, please be aware that this will affect your payout to some extent.

The biggest issue with plush size will be adjusting the slider to compensate for the different sizes.

Texture of the plush can affect payouts as well. Vinyl toys will stick and grab the claws differently than fur covered toys that will slide through more easily.

## PACKING OF THE PLUSH

How you "pack" the plush will have a big impact on how your game pays out. Some people prefer to tightly pack the plush to keep the payout lower. This works fine until a few prizes are won and then it becomes much easier to win. We suggest a loose pack as it is much easier to be consistent with, and much easier to percentage.

## TYPE OF CUSTOMER

Lastly, don't forget the type of customer at your location will be a determining factor. You may need to make adjustments just for this.

## SETTING UP YOUR MACHINE MANUALLY

### **PLEASE READ THIS SECTION CAREFULLY TO GET THE BEST POSSIBLE RESULTS FROM YOUR MACHINE**

In this section we will give you an example of how you might like to set your machine up.

As you become more familiar with this machine, you may be able to eliminate some steps.

## CALCULATIONS

The best way to set up your crane manually is to test it in house over a number of games.

We suggest testing in 100 game increments to get the best idea of an accurate payout. Once you become familiar with your crane and your prizes, you may not need to test as extensively in house. Of course, you could bypass this entire step, but you might get undesirable results in the field.

Use the following example to figure out your PAYOUT using the following example.

Let's say your game costs 50 cents to play, you want to pay out 33 percent, and your plush cost is \$2.50.

First, if you play 100 games at 50 cents you need to figure out what is 33 percent of 100 games at 50 cents.

Calculate  $100 \times .50$  (50 cents). This equals \$50.00.

Next Calculate  $\$50.00 \times .33$  which is 33 percent. Your result will be \$16.50.

Next, divide the \$16.50 by the value of your plush which in this case is \$2.50. The answer is 6.6 This would mean that for each 100 games you play, you would want to pay out approximately 6.6 prizes.

Let's do the same calculations again with different beginning values...

Let's say your game costs 25 cents to play, you want to pay out 20 percent, and your plush cost is \$1.50

First, if you play 100 games at 25 cents you need to figure out what is 20 percent of 100 games at 25 cents.

# MANUAL SETUP / PERCENTAGING

Calculate  $100 \times .25$  (25 cents). This equals \$25.00.

Next Calculate  $\$25.00 \times .20$  which is 20 percent. Your result will be \$5.00

Next, divide the \$5.00 by the value of your plush which in this case is \$1.50. The answer is 3.3 This would mean that for each 100 games you play, you would want to pay out approximately 3.3 prizes.

## INITIAL ADJUSTMENT

Set your game up as follows before testing:

**Claw Open Position** - Leave stock from the factory unless the open position is too small to go around the plush prizes.

**Claw Closed Position** - Leave an opening about the size of a dime when claws are closed. This will prevent the claw tips from overlapping which could cause the claw tips to stick together.

**Claw Slider Position** - The initial setting of the slider should be set so that if the claw tips grab onto an arm or leg of the plush the claws will slip off. This only applies when the tips grab onto the plush from the side.

NOTE: WHEN THE CLAW TIPS ARE UNDER THE PRIZE THE SLIDER WILL HAVE VERY LITTLE EFFECT UNLESS THE CLAW SHAPE HAS BEEN CHANGES NOTICEABLY.

Loosen the top collar or cap located on top of the slider and raise or lower to allow greater or lesser effect from the slider.

**Claw Shape** - do not change at this time.

**Claw Strength** - Set the initial strength value to "70"

## FINAL ADJUSTMENT

After playing 100 games check to see what your payout is at. Use the adjustments to change the percentages. Since there are so many different ways and preferences by the customers to raise or lower payouts, please feel free to experiment with different ways. The information at the beginning of this section details all of the possible adjustments and their affects on the game.

Retry until you are comfortable that you have a good initial set-up for the street.

You will find that various locations will payout differently just because of the types of players that frequent the locations.

You will also find that the plush can have a big impact on the payout percentages.

## HINTS FOR CONSISTENT PAYOUTS

1. Find an adjustment method that works good and stick with it for all of your ICE cranes.
2. Try to keep the plush size and type as consistent as possible within the machine.
3. Try to write down settings for certain types of plush.

EXAMPLE: When you put in the "Valentines Day or Christmas" mix, write down those settings so you can set your crane up the same way the next time you put that particular mix into the machine. Also, if you have a lot of locations, you can just tell your route man how to set up the cranes for that particular type of plush.

<b>Problem</b>	<b>Probable Cause</b>	<b>Solution</b>
The decimals on the 4 displays are lit up.	This is in fact not a problem but a way of letting the operator know that there was a problem during the startup mode.	Open the front door and the error codes are shown on the displays. To advance through the error codes, press the fire button.
No game power.	On-Off switch on the game is turned off? Blown AC power fuse? Game not plugged in or cord is damaged? Bad transformer? Transformer harness not connected? Bad power module?	Turn Power on. Replace with proper fuse. Check power cord. Check for proper voltages Check harness. Replace power module.
Game will not take money or give credits correctly.	Bad coin switch? Coin discounting set wrong? Coin per credit setting incorrect? Bad Coin mechanism? Loose or damaged harnessing? Bad main PCB circuit board?	Check w/ Ohm meter and replace. Check programmable setting. Check programmable setting. Adjust or replace. Check w/ Ohm meter and repair. Repair or replace main board.
Displays do not work.	Bad 12v fuse? Bad display PCB circuit board? Bad main PCB circuit board? Loose or damaged display harnessing?	Replace with proper fuse. Repair or replace PCB circuit board. Repair or replace PCB circuit board. Check w/Ohm meter and repair.
Crane or wagon doesn't move.	Bad motor? Loose or damaged harnessing? Bad switch on button or joystick? Bad harnessing to buttons or joystick? Blown fuse to motors on main PCB circuit board. Broken drive belt?	Replace motor. Check w/Ohm meter and repair. Replace switch. Check w/Ohm meter and repair. Replace with proper fuse. Replace broken belt.
Crane keeps trying to move in the home position.	Bad limit switches? Limit switch not aligned with actuator?	Replace Switches. Align switch and actuator.
Claw will not close.	Blown fuse to claw on main PCB circuit board? Bad coil? Loose or damaged harnessing? Claw has mechanically jammed?	Replace with proper fuse. Replace coil. Check w/Ohm meter and repair. Find jam and repair.
Claw stays closed.	Bad drive transistor on main PCB circuit board? Claw has mechanically locked?	Replace transistor. Find jam and repair.
Auto precentaging is not functioning.	Programming is not correctly set? Bad prize sensor? Loose or damaged sensor harness?	Set option 9 and 16. Replace prize sensor. Check w/Ohm meter and repair.
Claw goes down and then up but doesn't close.	Down switch is bad? Loose or damaged harness to down switch?	Replace down switch. Check w/Ohm meter and replace.
Claw comes up and about 15 seconds passes before crane moves to the home position.	Up switch is bad? Loose or damaged harness to the up switch?	Replace up switch. Check w/Ohm meter and replace.
Crane or wagon wheels slip.	Missing or damaged o-ring drive belts? Loose set screws in wheels? Loose set screws in drive coupler? Rails need to be scuffed?	Replace o-ring belts. Tighten set screws. Tighten set screws. Scuff top of rails with sandpaper.

# QUICK TROUBLESHOOTING

A self-test will be performed each time the front door is “closed” or the game is powered up.

If the Wagon does not move smoothly through a full travel from left to right, check to see that the wheel spacing is correct. If the spacing is correct then check the 2 cabinet rails for burrs that may cause the wheels to bind. Also check for broken or loose drive belts.

If the Wagon does not move smoothly through a full travel from front to back, check to see that the rod bushings are straight and not binding. Check for excessively loose drive belts or one of them broken.

If the front door is having trouble closing fully, check to see that the front door harness is routed properly. Also be sure the prize door is fully shut. If it is partially open it will not allow the front door to open or close properly.

If the door will not lock properly or locks with difficulty, check to see if the lock rotates smoothly. Next check that the lock rods are not binding on the lock cam or the lock rod guides. Next check that all friction points have been lubricated with molly grease. Finally if need be, file the lock rod guides such that the door closes and locks smoothly but be careful not to file out too much, for this may cause the door not to pull tightly to the cabinet as it was intended to do.

If the decimals light up on the displays after a self-test, an error has been locked. To advance through the error codes press the drop button when in error detection mode.

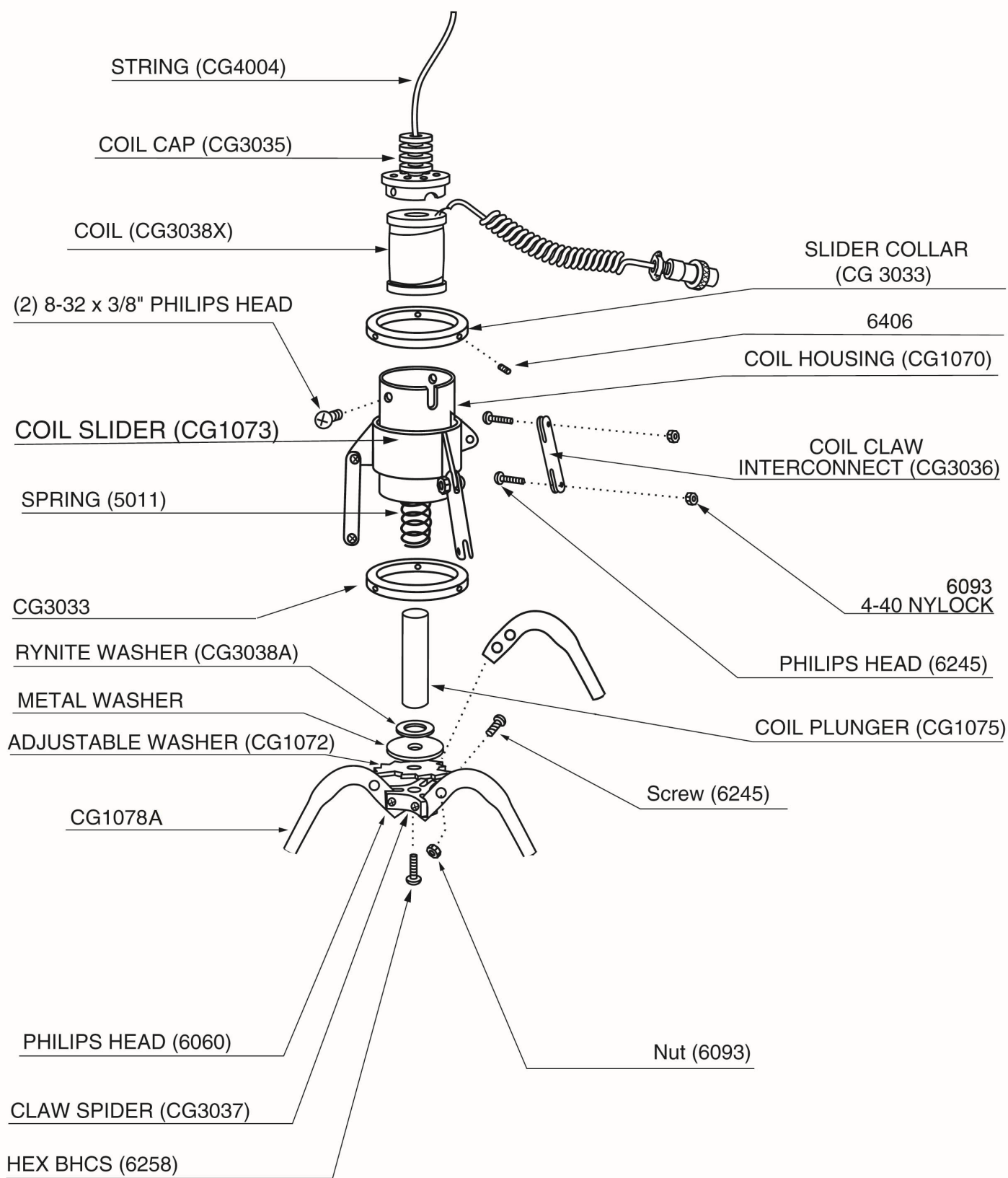
If, at the beginning of the self-test mode, the claw does not drop, one or more of the following may apply. The prize sensor is not working, or blocked. The string or string lever is mechanically binding. The up or down switch is sticking or misaligned from its actuator.

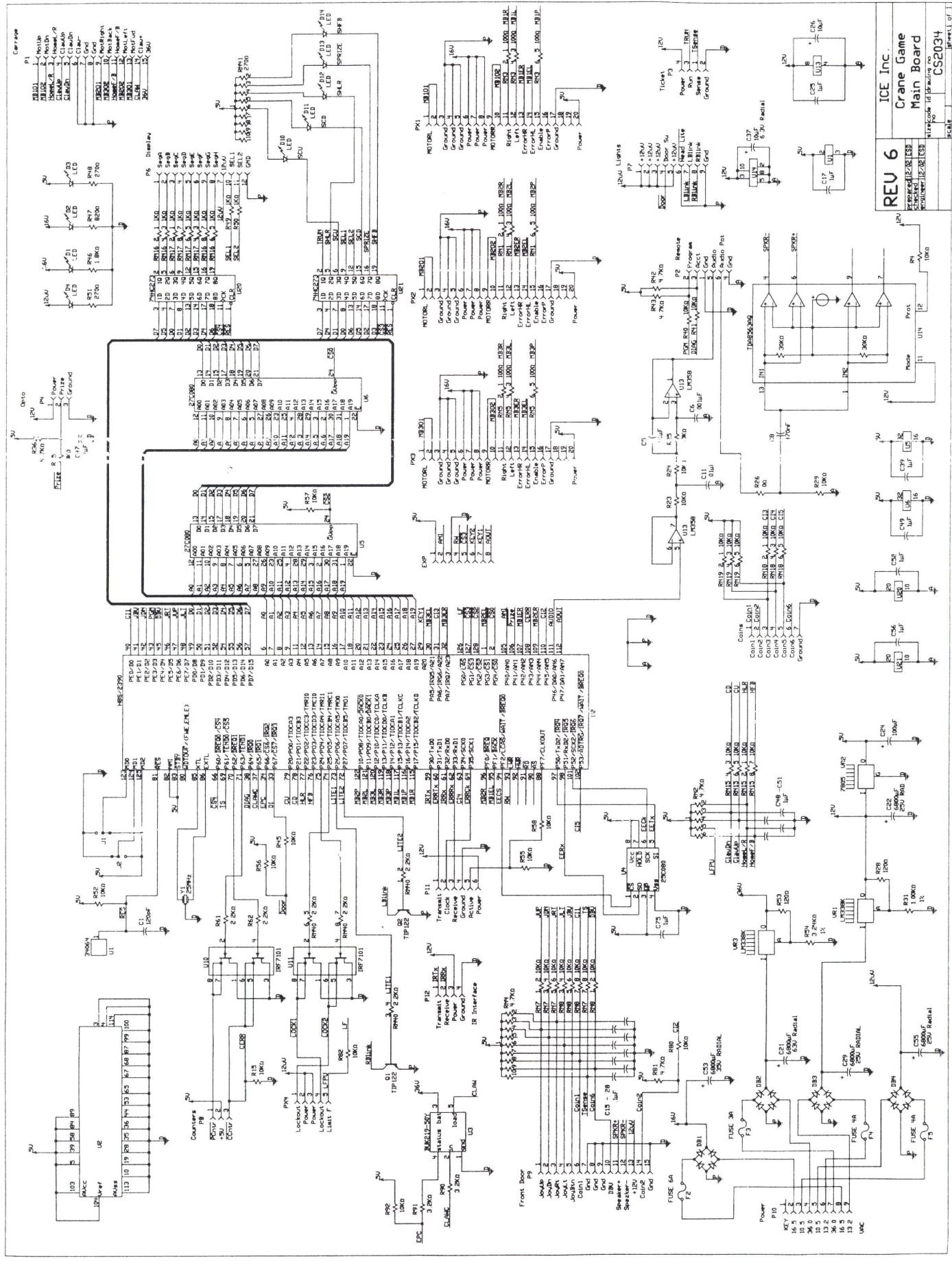
If claw stays closed it is likely that the diode has blown and the transistor controlling the claw has also blown. Shut off the game immediately and have a new diode, in coil assembly, and transistor, on main board, installed.

If claw is jerky while being lowered, it is likely that the string has mechanically bound on the spool. To fix the string binding enter programming mode and go to CLAW UP/DOWN MODE. By moving the joystick to the left and right you are able to raise and lower the claw mechanism. Move the crane over the prize chute and lower the claw mechanism all the way until it starts to wind up backwards. Reverse the motor direction to raise the claw mechanism and properly rewind the string on the spool. Exit the programming mode and the string should be free of mechanical binding.

If the claw stays open First check for bad fuses on the main board, next check that there are no wires dislodged from the connectors in the harness between the wagon and the crane, the harness between the wagon and the main board, the crane assembly and the wagon assembly. If the problem still exists and no fuses are blown or wires dislodged it is likely that the transistor controlling the voltage to the claw has blown on the main board. Replace main board and have the other main board repaired by electronics.

If the crane/wagon in the home position still tries to move left or back, check to see that the actuators are both present. Check to see that the sensors are present. Next check to see that the sensors and the actuators are both aligned. Then check to see that the sensor wires are not dislodged from the connectors. Finally replace the sensor; it is likely to be bad.





ICE Inc.  
Crane Game  
Main Board  
REV 6  
Scale 1:1  
CS2034

BC2032X	Display PCB
CG2034GX	Main PCB
CG2067ALVX	Counter harness
CS2034ALVPRX	Main w/mech counters
CS2029X	Motor Drive
CS2039X	Prize Curtain
CG2035X	Parallel Printer Interface
CS1078AX	Small Claw Assembly w/solenoid
CS2009X	Claw solenoid
CS2057X	Solenoid cable
CS1055X	Wagon Assembly
CS2012X	Sensor Assembly
CS8449X	Ballast (WH3)
CG2002X	Transformer
PP250X	Socket
CG2059X	Remote Assembly
1029WSX	Reset button
CG1036GGALVX	Main board box

Harnesses:

BC2050ALVX	Door
BC2053ALVX	Printer communication
BC2055ALVX	Printer buttons
BC2064ALVX	Main AC power
BC2059AX	Remote
CS2051X	Ballast Extension
CS2052X	Main wagon lower
CS2053X	Wagon Crane
CS2056X	Sensor extension
CS2060X	OPTO
CS2064X	Ballast power extension
CS2065X	Frame ground
GG2052AX	Main wagon upper
DN271X	SR3/standard nri mech



# WARRANTY POLICY

I.C.E. Inc warrants all components in new machines to be free of defects in materials and workmanship for the period listed below:

- 180 days on Main PCB's, Computers & Motors
- 1 year on all LCD monitor panels
- 90 days on all other electronic and mechanical components
- 30 days on all I.C.E. repairs and parts purchases

I.C.E. Inc shall not be obligated to furnish a warranty request under the following conditions:

- Equipment or parts have failed through normal wear and tear
- Equipment has been subjected to unwarranted stress, abuse or neglect
- Equipment has been damaged as a result of arbitrary repair/modification

Products will only be covered under warranty by obtaining an I.C.E. authorized RMA #. To obtain an RMA # please provide I.C.E. tech support with the game serial # or original I.C.E. invoice # and a detailed description of the failure or fault symptoms.

I.C.E. Inc will assume no liability whatsoever for costs associated with labor or travel time to replace defective parts. All defective warranty covered components will be replaced with new or factory refurbished components equal to OEM specifications.

I.C.E. Inc will cover domestic UPS ground, or comparable shipping costs during the warranty period. International or expedited shipments are available for an additional charge. To obtain credit defective parts must be returned to I.C.E. Inc, at the customer's expense, within 30 days. After 30 days a 15% re-stocking fee will apply to all returns.

ICE distributors are independent, privately owned and operated. In their judgment, they may sell parts and/or accessories other than those manufactured by I.C.E. Inc. We cannot be responsible for the quality, suitability or safety of any non-I.C.E. part or 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)**