

# More Secrets Of Operating Cranes



by Frank Seninsky  
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In the last issue, I briefly described: 1) How to stock a crane and quickly get close to a 33% win rate with a base hit frequency of 1 in 12 tries; 2) How to adjust the claw cam for regular and smaller items; 3) what are proper steps of crane maintenance to reduce cart friction and string wear and breaking.

There are several other crane adjustments that you should be aware of that will permit you to use a wider variety of merchandise and still maintain a fair "win rate". The claw coil potentiometer (pot) and the claw coil cylinder are two more adjustments that you should be familiar with. The smart operator will be flexible enough with the adjustments so he can stock his crane with whatever the current "hot items" are. Always remember that the first law of crane operation is: "Make sure your customers are winning a fair share of prizes for the money they spend playing". If players don't win enough, they simply won't continue to play.

I'd like to comment on the excellent interview article on cranes that RePlay had in their last issue: "Barry Feinblatt, President of UAI New Jersey". Barry Feinblatt and Art Warner of Betson were two of the crane "mavens" (experts) that I had on the "Merchandising seminar" panel at the past AMOA show. I have known both gentlemen for almost 20 years. Mr. Feinblatt is not only one of the industry's most knowledgeable people regarding cranes, but — as we all found out at the seminar — he is also an eloquent speaker. It would be very interesting to read the results if RePlay would do a follow-up interview about cranes, merchandising and redemption equipment with Art Warner of Betson.

There is, however, one part of the Feinblatt article that I, as a crane operator, must take a different approach to. It seems logical that a crane manufacturer might go on record as Mr. Feinblatt did, and state that cranes should not have claw adjustments for the operator, because of the fear that some operators would use these adjustments to lower the win rate of the players. Sure, this sounds good for law enforcement officials and legislators to read and hear. And yes, there are a few "bad apple" crane operators who will rip off the public. But the fact is that a "good" crane operator (and most of them are good) spends much of his time figuring out how to adjust the crane so that the player can win more!

It is my experience that as the win rate drops below 25%, the crane income decreases drastically. In some instances, the only way to increase your win rate is to decrease the claw tension! I hope that law enforcement officials are reading this, because good operators and these officials have the same interest — and that is to ensure that all cranes are operated fairly.

Let me give you a perfect example of how I greatly benefited this past summer [1986] by adjusting my Big Choice cranes so I could "cash in" with a nationally-advertised hot item called "Crazy Balls". They sold for about \$11.00 per dozen and some operators completely filled up three bays of triple cranes with them. The problem was that the item was just too difficult to win, because the balls were so lightweight and so large that if the crane was left on normal settings, the claw would just "squeeze them away" instead of picking them up.

Here are the adjustments that should be made (I will be working with Big Choice, as most crane operators are familiar with this type of claw mechanism - see Figure below).

First, turn the "pot" on the power supply board that controls the claw coil tension, to the "weak" position (counter-clockwise). Note that it's great to have this adjustment when you need to pick up lightweight items. Second, set the "claw cam" to the smaller opening. (Details on how to do this are spelled out in my article in January's RePlay). Third, adjust the claw collar "upwards" on the claw coil cylinder about ¼ inch from its medium position (a total of ¾ inch from the bottom stop), which makes the claw tension still weaker yet. The medium position is about ½ inch above the bottom stop. Going closer to the bottom stop with the claw collar will make the claw tension greater. This is a good example to learn the importance of the claw collar adjustment.

Now, the claw will be able to pick up these lightweight "Crazy Balls" as it can slop around them easily. After making the adjustments described above, my "win rate" went up on the "Crazy Balls" to over 30% and my customers were very happy. They showed their appreciation by pumping quarters into my cranes. If I didn't have these adjustments, I could not make money using "Crazy Balls", and I would have to continue using boring, boring, boring plush, forever and ever and ever; yawn, yawn, yawn!!! In my next article, I will explain how to increase your win rate by using my California Version modifications" and nudge features.

I was just informed at press time that, by the end of February, Big Choice cranes will have a universal board with a four-

position dial and interchangeable control panels, so the crane can be operated in any of the following modes: 1) A two-button or two-position joystick, which Betson calls its "regular crane". 2) A three-button or three-position crane (claw drop button is on top of joystick) with a timer circuit. This is a forward/across/down control with nudges. 3) A four or five-position joystick with timer unit. This is known as a four-direction crane. 4) A four or five-position joystick with a timer unit and a "speed control" button. With a speed control, the player can push a button to reduce the speed of the motors when the claw is returning "home" with a prize. This lessens chances of the claw dropping the prize due to claw vibration. Betson will continue to produce its special California "Skill Version," which comes in a different cabinet and conforms to the standards desired by California officials.

After studying the above information about how weaker potentiometer settings can actually increase players' chances to win, it should be obvious to readers that there is not just "one right way" to operate a crane. The truth is, there are endless ways that a crane could be operated fairly and correctly, depending on the particular crane and merchandise involved. I could go on and on, but it still comes down to the fact that "good crane operators" want their players to win a fair amount of merchandise, so that players will come back to play again and again. It isn't always easy to make the correct adjustments that will quickly produce a fair win rate, but the rewards to the operator for "fine-tuning" his crane are certainly worth the extra effort.

### **Simple Crane Modifications Can Help Comply With Authorities**

**by Frank Seninsky  
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Modifications to cranes can sometimes be a good thing. In this month's column, I'm going to describe some simple crane modifications which will increase your "win rate" slightly (the importance of increasing win rates was discussed in last month's "Frank Talk"). More importantly, these simple modifications may help your crane comply with some pretty strict local and state authorities by adding additional "skill factors".

First, let's look at some of the distinctions made by local authorities. In some sections of the country, a joystick-operated crane (as opposed to the button-operated kind) has been approved by licensing authorities as a "skill crane". Such joystick-operated cranes are commonly — and wrongly I might add — called a "California crane". For some reason, any joystick (even a simple 2-way stick is perceived by the public to afford the player more skill than two buttons which perform exactly the same electrical function. In my opinion, electrically speaking, it doesn't matter whether a joystick or buttons are used to close a switch. [Editor's note: as Frank points out, it's wrong to call every joystick-operated crane a "California crane", because mere joystick control does not automatically guarantee that California authorities will approve of the crane.]

#### **Nudge Control**

At any rate, some joystick cranes do have a true skill feature which can be added to a standard two-button crane. That skill feature is, the permitting of the player to move the claw in either the forward and/or across directions several times, stopping and starting repeatedly before opting to press the claw drop button. This is known as a "nudge feature". Some models also have reversing circuits that allow the player to drop the claw a little each time, while still being able to move the forward/reverse and across/back positions again and again. The more times a player can "zero in" on a prize before the crane claw finally closes, the easier it is to win. What you could end up with, if you have all these nudge and reversing features, is an automatic vending machine instead of a crane! For this reason, timer circuits have been installed on the "true California crane" (I'm not referring to any one model or brand here, but to all joystick-operated cranes with full skill features) which limit time per play.

If you have a standard two-button crane or a joystick model without nudge features, there is a very simple modification you can make, which will allow the crane to operate in the same manner as what I refer to as the "simple California version". The only components you need are a button switch and some wire. When completed, the player will have numerous forward, and then numerous across chances, before hitting the newly-installed claw drop button.

The figure below shows a regular Big Choice circuit diagram. (I use this crane in my example because it is the brand that I mostly use on my route.) The circuit diagram printed here is not to be confused with the new universal board that now comes with Big Choice cranes. Find the 1N4007 diode (between the price switch and center relay) and 'jumper it out' by soldering a wire to the ends of the diode. Next, cut and lift up the 'anode' end of the outermost 1N4007 diode, located on the top left of the PC board. To install the claw drop button, simply cut a hole through the control panel midway between the forward and across buttons. One wire from the claw drop button switch goes to the anode of the lifted diode. The other

wire is then soldered to the connection where the anode of the lifted diode was originally attached (before it was lifted).

### **Adding Other Skill Factors**

With a bit more work, you can give players several other options:

You can set the maximum number of button presses (nudges) a player may have in either direction by adding capacitors to the existing circuit.

You can permit the player to alternate between the forward and across buttons by adding a diode to the "cart home switch".

You can add two more buttons (or replace the four buttons — three directional buttons and one claw drop button) — with a 4-way joystick with claw drop switch on top, if your panel is wide enough. Also add a simple reversing circuit so the claw can go back and forth in either direction.

You can permit the claw to drop down only when the "claw switch down" is held closed.

You can add a timer circuit to limit a player from taking all day to play with just one quarter.

You can add a speed control circuit to slow down or speed up the cart motors.