

October 2004

SLOT TECH MAGAZINE

Slot Machine Technology for the International Gaming Industry

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Technology



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Slot Tech Magazine

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October 2004

Slot Tech Editorial

Autumn is here and with it comes the annual Global Gaming Expo. If you're not a subscriber, you have probably picked up this copy of Slot Tech Magazine at the event. If so, welcome. Slot Tech Magazine is the gaming industry's only technical trade journal. We specialize in slot machine technology. Each month, we look at how things work and how to fix them when they don't. We'll introduce you to new systems and products as well. We'll even take you into the secret world of slot

machine mathematics. There is a subscription form in the back of this issue.

As you can imagine, there are many things that occur behind-the-scenes at a magazine. One of them is dealing with advertising. The technical articles you read may be the brains of Slot Tech Magazine but advertising is its lifeblood. Without it, Slot Tech Magazine would be, er . . . , well, it wouldn't *be* at all to tell you the truth. Regardless, a trade journal without advertising would much less informative. The products and services you see advertised in trade journals are important to the daily operation of your business.

Or are they? Would you be surprised if you opened an automotive specialty magazine and saw an advertisement for a device that promised to boost your fuel mileage through the use of magnets strapped to your fuel line? Probably not. There are dozens of these (and similar) devices on the market. Would you be surprised if it worked? You probably would. I sure would be. Just because you see it advertised, that doesn't necessarily mean that it works.

As a magazine publisher, it's difficult to turn down advertising (lifeblood, remember?). But for all the wonderful things that you have seen in past issues of Slot Tech Magazine (technical



articles, special events, new products and yes, advertising) one thing you have never seen is an advertisement for bill validator cleaning cards. This is not because no one has asked to advertise the product. They have. It is because it has been Slot Tech Magazine's policy to reject any advertisement that features bill validator cleaning cards.

Why the heck would I turn down advertising for a bill validator cleaning card; a product that is used every day in casinos around the world? Because, quite frankly, they just don't work as advertised and I refuse to peddle Snake Oil to the readers of Slot Tech Magazine. The optics in today's bill validators are either rounded or recessed. Cleaning cards cannot properly swipe the surface of the optic. Until now, that is. I have just one word for you - Waffle. Turn to page thirty.

I hope the G2E show is/was good for you. I'll see you at the casino.

A handwritten signature in black ink that reads "Randy Fromm".

Randy Fromm - Publisher
October 2004

Randy Fromm's Slot Tech Magazine

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Waffle Technology

Slot Tech Lab Reports A-OK
For New Bill Validator Cleaning Card

Bill validators, also known as bill acceptors, have been in use for decades now. Early uses were restricted to low-denominations such as in the vending industry where initially they had the ability to validate and accept one-dollar bills only. Industrial vending items (sandwiches, soup, canned stew, etc.) cost more than candy bars and so the BV manufacturers soon added five-dollar bills to the repertoire. Higher denoms weren't required as the likelihood of anyone needing to deposit more than five dollars into a vending machine is pretty small.

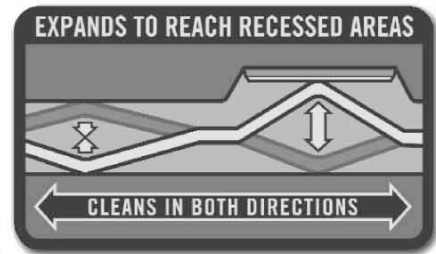
Validating these low-denomination bills is easily accomplished through the use of a magnetic head. As the banknote passes through the unit, the mag head rubs against the bill and reads the pattern of the magnetic ink that is used in US currency. The unit then compares it to the pattern that is stored in memory and if it's close enough, you get your Snickers bar.

All that rubbing of dirty money meant that dirt would build up on the mag head and so the Bill Validator Cleaning Card was born. It's

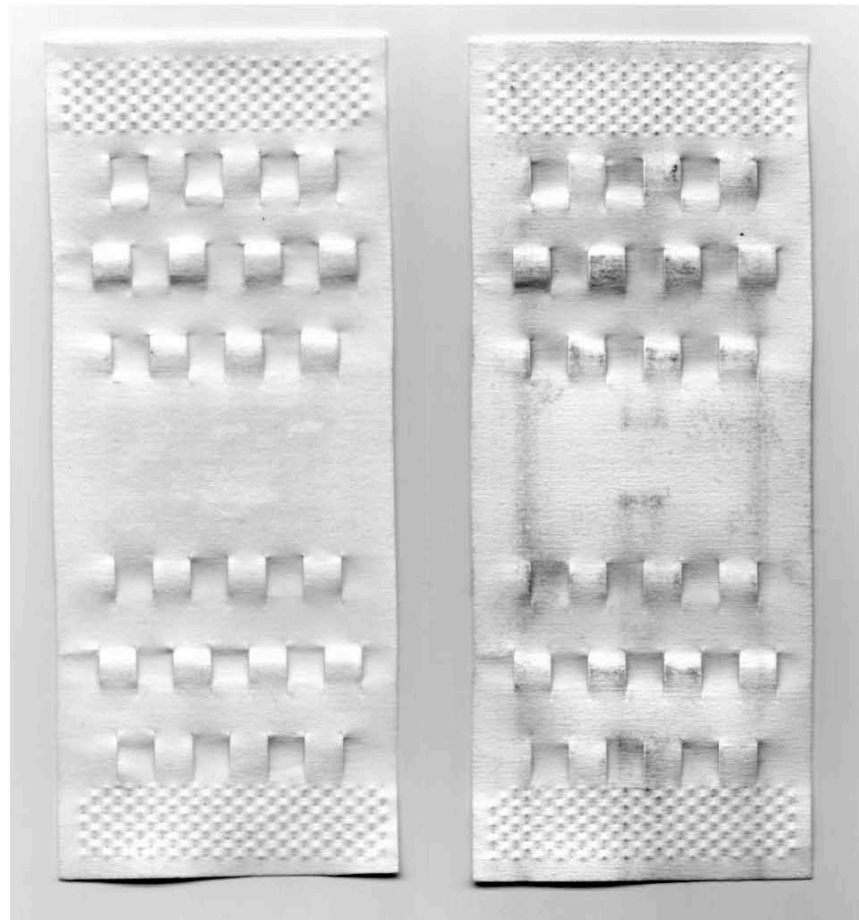
a simple matter of soaking an absorbent card in cleaning solution of some sort and passing it through the unit. As the mag head is rubbed by the card, the dirt is cleaned off and you're in business.

High-Denom

Enter JCM and the embedded bill validator. The



geniuses at JCM had the idea that maybe, just maybe, slot machines players don't really love feeding coins and tokens into slot machines and that it would be easier and faster - and more profitable for the casino - if a bill validator could be introduced into the machine. It seems like a no-brainer in hindsight but at



This is what the cleaning card looks like after a single pass through the bill validator during the lab test. A clean card is shown on the left for comparison. Notice the large accumulation of black on the raised pads of the card.

the time, this was a revolutionary idea.

But this could not be an ordinary bill validator. Magnetic detection could never offer the degree of security required in a casino. We're not selling candy bars or Dinty Moore Beef Stew here. We're talking about real money, with the ability to accept bills with a value of up to \$100. This would require a new Bill Validator design and the folks at JCM were just the people to provide it with optical recognition and validation. Instead of using only a magnetic head, a complex system of optics would be added in order to read the bill and verify its authenticity. Unlike a mag head that must actually touch the bill in order to read it, the optics must **not** touch the bill as it passes through the unit. If they did, they would soon scratch and become useless. The optics are slightly recessed so that they come very close to the bill but do not actually touch the surface.

All of this history is a very long wind-up to the actual point of this discussion which is this: The new optical system works fantastically well as casinos around the world well know. Slot machines with bill validators quickly outperformed those without them. Unfortunately, the cleaning card manufacturers have continued to market the same cleaning card to the gaming industry as the one used in the vending

machines; a card that is now all but useless as it passes over the recessed optics without touching them at all. Sure, anyone using such a cleaning card will see two dark, parallel skid marks on the card as the dirt from the transport belts is rubbed onto the card but the belts aren't our concern. Our concern is cleaning the optics and those flat cards get a big, fat "F" for failure in that department.

New Paradigm

Unlike flat cleaning cards, WAFFLE TECHNOLOGY™ cleaning cards incorporate flexible, raised cleaning platforms on both the top and bottom surfaces. These cleaning platforms are essentially spring loaded, dramatically increasing the pressure applied throughout the cleaning process. These raised platforms, due to their shape and flexibility, also access critical components that flat cards cannot touch. The recessed sensors of most bill validator machines and the rounded optical lenses of card readers can only be thoroughly cleaned if you can touch them and the WAFFLE TECHNOLOGY™ cleaning cards do just that.

In order to test this new technology, Slot Tech Magazine received some samples of the new product from the company and set off for nearby Sycuan Casino in San Diego in order to test them. The was just one goal for this test: To determine if

the cleaning card could reach and clean the recessed optics in JCM's popular WBA bill acceptor. That is ALL we set out to determine.

The test was simple. A WBA head was opened and the recessed optics were opaqued with a black, dry erase marker pen. This produced a thin film that was highly visible but could easily be wiped off in order to verify that the cleaning card has made contact with the recessed optics. If the Waffle card works as advertised, the optics should be wiped clean and the black ink should show up on the cleaning card.

And work it did. After just a single insertion (which is, of course, a double pass across the optics as the bill is first pulled into the unit and then rejected) the head was opened and the optics examined. They were clean. You can see from the photograph that the ink had been transferred to the card. An unused card is shown for reference so that you don't mistake shading for dirt. The image was created by laying the two cards on a scanner and has been contrast-enhanced for clarity.

For more information and a neat little animation showing WAFFLE TECHNOLOGY in action, visit the website at waffletechnology.com

- Slot Tech Magazine