The official publication of ALOA, an international association of security professionals

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February 2012

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SECURING YOUR SUCCESS

# Choosing the Right Electronic Products

Make your transition to electronic access control easier and more profitable

## Watch This Space

When it comes to cutting keys, spacing is as important as depth

# **Drilling SFICs**

Moving into the Institutional World | The Fundamentals of Electricity | Q&A: Kaba Access Control



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"If our logo appears on your invoice and you have a fraud complaint filed against you with ALOA, you will lose your membership."

## New Year, New Changes

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OW THAT WE'RE GETTING INTO THE SWING OF 2012, IT'S TIME FOR YOU TO TAKE assessment of your personal training and get yourself in shape. I'll bet you think I'm talking about going on a diet? No, I'm talking about your brain — that's right, that one piece of human capital that sits between your ears. At 66, I love to learn new things about my chosen profession. Technology is changing by the hour, and you can't read enough to sort out the specific items for our industry. So make your New Year's resolution now to cram in as much education as you can handle. A good rule of thumb is, when your ears start to smoke, you're done!

Scammers, scammers everywhere — what are we going to do about them without going to jail? The ALOA staff is motivated 150% to go after these scoundrels and get them out of our industry. The ALOA logo is trademarked, and we will go after any company displaying our logo that is not an ALOA member. For those of you that subcontract your lock work to independent locksmiths, they do not have the right to use the ALOA logo unless they themselves are ALOA members. If our logo appears on your invoice and you have a fraud complaint filed against you with ALOA, you will lose your membership in ALOA.

Starting yesterday, any locksmith applying to become a member of ALOA who is not a U.S. citizen will be charged the appropriate application fee that allows us to conduct a background investigation into the country of origin. You will also need an existing ALOA member to sponsor you into the association. There is a list of other documents that you can produce instead of the background investigation if your country does not allow background investigations.

It gives me great pleasure to announce that C.D. Lipscomb, CML, CAL, CPS, CIL, has volunteered to work with the staff as chapters director. C.D. can be reached at chapters@ aloa.org. Thank you, C.D.

Best regards, Tom Demont, AHC, CAI, CFDI, CFL, CMIL, CML, ARL

## **KEYNOTES**

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"We're in the process of modifying the ALOA membership application, and we're tightening up our applicant screening process."

## Getting Better All the Time

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T'S STILL EARLY IN THE YEAR, BUT WE'RE ALREADY MAKING SOME EXCITING CHANGES for 2012 in an effort to continue improving how ALOA serves you, our members.

For instance, we've recently named Henry J Lachausse IV, CRL, CPS, as assistant education manager. Lachausse will be working closely with Education Manager Jim Hancock, CML, CPS, and others in ALOA as we take the association's training offerings to an even higher level.

What's more, we're bringing on board C.D. Lipscomb, CAL, CIL, CML, CPS, as director of chapters. This move will help improve communication among ALOA and its chapters and affiliates, which in turn should have a positive impact on the scammer situation plaguing our industry.

We receive complaints or grievances practically every day related to the unethical activities of these scammers, and we're determined to win the battle against these criminals. We're in the process of modifying the ALOA membership application, and we're tightening up our applicant screening process, all with the goal of minimizing the possibility of scammers becoming members. For more information on the strides we're taking in this battle, see our monthly Locksmith Task Force department, this month on page 40.

And as yet another example of the positive changes taking place, we're working closely with ALOA President Tom Demont AHC, CFL, CML, and the ALOA audit committee to cut our expenses in every way possible. These cost-cutting measures include streamlining the production process for *Keynotes* magazine and looking for other ways to trim expenses throughout the organization.

While such cost-cutting measures may be difficult internally, they should have no negative affect on the way we serve you. In fact, we fully expect that by improving our organization's fiscal health, we'll be able to serve you even better. Thanks to all of you for your continued membership with ALOA — and be sure to look for your renewal packets, which were delivered in January.

Mary A. May, Interim Executive Director

## What's New Products and More

## **ALOA** Announces **New Positions**

HE ALOA EDUCATION DEPARTMENT is pleased to announce the addition of Henry Joseph Lachausse IV (Joey) to the staff as our new assistant education manager. A longtime member and supporter of ALOA, Lachausse brings 32 years of experience

to the job as a technician and business owner. In other news, C.D. Lipscomb, CAL, CIL, CML, CPS, has been named director of chapters. The move is intended to help improve communication among ALOA and its chapters and affiliates.

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#### **Customers Say the DARNDEST** Things

From Tony Wiersielis, CPL:

- I arrive at a lockout one evening to find the customer waiting in the lobby of their apartment building. As we ride up the elevator she asks me, "Are you going to use your master key to let me in?"
- I pull out my picks. The customer smiles and says, "Where can I get a set of those?"

Me: "If you had a set of picks, wouldn't they be locked in your apartment right now?" Customer: "Oh."

I'm picking the lock, but it doesn't open within 3 seconds. The customer says, "It doesn't take that long in the movies."

Me: "Did you try calling an actor?" Send us your funny conversation with a customer to editor@aloa.org, and we'll pay you \$25 if we use it!

What's happening in your ALOA chapter or affiliate? Keynotes wants to know about it. Contact editor@aloa.org to submit your chapter and affiliate news - and see yourself in print.

#### **The Lighter Side of Locksmithing** By Steve Wyman



#### NEWS BRIEFS

H.L. Flake's trade show and  $\gg$ 100-year anniversary party is slated for April 19-21, 2012. For more information, visit www.hlflake.com. Security Door Controls added Samantha Westby to its customer service department. Westby provides phone support to customers and processes orders received by email, fax and phone. Visit www.sdcsecurity.com for more information.

**The North Jersey Master**  $\gg$ Locksmith Association donated \$225 to the ALOA Scholarship Fund in memory of Henry (Hank) Printz, CML, a former ALOA and SAVTA president. For more information, visit www.locksmithnj.com or www.njmla.org.

Lockmasters, Inc., added Michael Brislin to its government and industrial department, and Frieda Ellis to its safe lock division.

C.R. Laurence (CRL) has launched crl-arch.com, an online source of valuable information for architects, designers and specifiers on the company's full range of architectural products.

#### **ALOA Chapter Hosting Training Event**

The Minnesota Chapter of ALOA hosts The Learning Curve: Winter Education Weekend, Feb. 17-19, 2012, at the Best Western Kelly Inn in Plymouth, MN. Classes include OSHA Workplace Safety wPractices and Aluminum Storefront Door Servicing.

Instructors at the training event include David E. Thielen, CML, a professional locksmith for more than 25 years and an ALOA member since 1985.

For more information, contact Dana L. Lee, CML, CPS, PLT, at (612) 968-3257 or danaleecml@gmail.com.

#### PRODUCTS

#### **BEA Intros Electric Strikes**

BEA's new electric strikes for secure doors improve user control over granting access permissions, according to the company. The Rim Exit, No Cut and Universal Cylindrical strikes allow remote operation of the door's locking latch.

Electric strikes replace the traditional fixed strike faceplate on a secure door. Depending on the application, electric strikes can be set to a fail locked or fail unlocked configuration, so that activating the strike will either unlock or lock the door.

The Rim Exit surface-mounted electric strike eliminates door frame cutting and is compatible with most doors using major rim exit devices. The No Cut Cylindrical Strike fits into a standard ANSI door frame. BEA's Universal Cylindrical Strike is an all-in-one kit that includes the three most commonly used modular face plates for hollow metal, aluminum and wooden door frame types.

For more information, visit www.beasensors.com.

#### **Keedex Announces Wafer Reader**

Keedex recently introduced the USB-WR Wafer Reader, a specialty digital camera with two interchangeable probes and an adjustable LED light. The device connects to a computer with a four-foot USB cable. The camera provide a large digital image of the lock face, keyway and the ledge positions of the wafers inside a lock. The enlarged image makes reading the wafer tumblers much easier, according to the company.

In addition, still and video images can be saved for comparison and future reference. Two different probes are included with the USB-WR to cover different focal points. The probe allows users to push down on wafers in front so they can view the wafer in behind. As the probe is pulled forward, the user can click the camera for still shots. For more information, visit www.keedex.com.

#### **Olympus Intros Cylinder Kit**

The T54C can be keyed to match other existing T-knob

pus Lock's rekeyable T37 T-bolt locks.

Olympus Lock, Inc. recently announced the Olympus T54C T-Knob Cylinder Re-

placement Kit for CompX/National T-Knob models C8154 and C8155. It replaces failing cylinders in the field without having to replace the entire handle. The T54C cylinder is made from solid brass for increased durability and finished in US26D.

The T54C can be keyed to match existing 4-pin or 5-pin systems. The cylinder kit ships uncombinated with two ringed 4-pin key blanks; 5-pin blanks are available separately. For more information, visit www.olympuslocks, CompX/National pin-tumbler T-bolt locks or Olym-

lock.com.



BEA's electric strikes are designed to promote even load distribution in the event of a forced entry.

ECURITY 8

#### **PRODUCT BRIEFS**

Master Lock Company is of-fering a three-month special promotion, from January 1, 2012 to March 31, 2012, featuring a free fullcounter display of Master Lock lock lubricant with PTFE (polytetrafluoroethylene). The display comes with 24 Lock Lube pens that carry a retail value of \$126.24. The offer is limited to one per customer to the first 2,500 locksmiths. The self-dispensing display is free to locksmiths who purchase \$500 or more of Mas-

ter Lock or American Lock security products in any combination from authorized distributors during the promotion.



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FEBRUARY 2012 KEYNOTES

#### **NEW APPLICANTS**

#### As of December 14, 2011

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#### What's New

#### CALIFORNIA

Laguna Niguel Meir Hashalom

#### **FLORIDA**

Apopka Antony C. Alford Sponsor: Jason Gage, RL Naples **Pete Caceres** Sponsor: William C. Boughman, CPS, CRL **Robert Pontes** Sponsor: William C. Boughman, CPS, CRL **Billy Sears** Sponsor: William C. Boughman, CPS, CRL Vero Beach Chad Craft Sponsor: Sherman Wilder, CRL

#### **GEORGIA**

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LOUISIANA Baton Rouge Stacy Poor Patterson Cody J. Blanco

#### MASSACHUSETTS Granby

Chad Gagnon Sponsor: Donald C. Saltmarsh, CRL Jamaica Plain Malcolm Gale Sponsor: Thomas R. Demont, CML, AHC

#### MICHIGAN

Southfield William Trout Sponsor: John K. Hubel, CRL

#### MISSOURI

Lees Summit Robert G. Turner Sponsor: Gregory P. Fasse, CRL

#### Your Online Education

ALOA — in conjunction with STAM Multimedia, SecurityCEU and IFDIA — offers Web-Based Training (WBT) courses on the latest security technology, with member-only discounts that include:



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- with interactive audio/visual training Downloadable course notes
- ALOA PRP re-certification program points

For more information about legislative representation and other ALOA membership benefits, contact membership@aloa.org or (800) 532-2562.

Your Business. Your Industry. Your Association. Your Future. You Hold the Keys.

#### NORTH CAROLINA

Harrisburg Robert Brooks

#### **NEW JERSEY**

South Amboy Glenn Hennings CRL,CFL Sponsor: Thomas R. Demont, CML, AHC

#### NEVADA

Henderson Ralph B. Cox Las Vegas David I. Ostrovsky *Sponsor: John P. Little, RL* Reno Nicholas P. Flanders Gregory Laibson

#### **NEW YORK**

Far Rockaway Carl Roberts

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Charleston Joaquin A. Molina Sponsor: Jeffrey J. Waite, RL

#### TEXAS

El Paso Mauricio A. Saucedo Sponsor: David E. Saucedo, RL

#### We Need Your Help

**Attention, ALOA members:** Help us eliminate the ongoing industry problem of scammers by screening the new applicants listed on these pages. If you have questions or concerns about any of the applicants, please contact Mary May, member services manager, at (214) 819-9733, ext., 220, or e-mail mary@aloa.org.

Flint Clay D. Collins AFL Sponsor: James L. Hancock, CML, CPS San Antonio Ben J. DeSoto

#### VIRGINIA

Arlington Christopher M. Rentz Sponsor: Michael B. Groves, RL Chantilly Abdul Rahmani Sponsor: Robert Barton, RL Woodbridge Brandt A. Grau Sponsor: Michael B. Groves, RL Brian Padgett Sponsor: Michael B. Groves, RL

#### WASHINGTON

Sunnyside Glenn Officer

#### CANADA

Ontario - New Market Jason Belanger, CRL, CPS

#### HONG KONG

Kowloon Tim Shing Lee Sponsor: Ying Wai Sin, RL

These applicants are scheduled for clearance as members of ALOA. The names are published for member review and for comment within 30 days of this Keynotes issue date, respectively, to ensure applicants meet the standards of ALOA's Code of Ethics. Protests, if any, must be addressed to the ALOA membership department, signed and submitted via e-mail to membership@aloa.org or via fax to 214-819-9736.

#### What's New

#### FEBRUARY 2012



#### ACE: Your Bottom Line & Lock Shop

Management 101 Alabama Locksmiths Association Birmingham, Alabama Barbara McGowin, (205) 338-1150 locksmithala@gmail.com

Feb. 6-11

ACE: Six-Day Basic Locksmithing

ALOA Training Center Dallas, Texas

ALOA Education, (800) 532-2562, ext. 101 education@aloa.org

#### Feb. 8-10

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IML Expo Expo: Friday, February 10th Chaparral Suites Resort, Phoenix, Arizona www.imlss.com





Intermountain Lock & Security Supply Phoenix, Arizona

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Heather Donohue, 801-486-0079 ext 1302 heather.donohue@imlss.com

#### Feb. 17-18



ACE: Winter Education Weekend MN Chapter of ALOA Plymouth, MN

Dana Lee, CML, CPS danaleecml@gmail.com

Feb. 25

#### NC Locksmith's Association Regional Security Trade Show Charlotte, NC Jackie Bright, CRL, NCLA trade show director, (910) 237-0070 nclashow@msn.com www.ncla.us

#### **MARCH 2012**

Mar. 1-4 Hans Johnsen Trade Show Hans Johnsen Company Dallas, TX Edward Ibarra, (214) 879-1550 ext. 114 EdwIbarra@hjc.com



#### **PRP** Hans Johnsen Company

Dallas, Texas Edward Ibarra, (214) 879-1550 ext. 114 EdwIbarra@hjc.com

Mar. 7-9



ACE: Kaba Mas X-09 Install/Operation, S&G 2740, & Safe Deposit Lock Service

CALENDAR

ALOA Training Center Dallas, Texas ALOA Education, (800) 532-2562, ext. 101 education@aloa.org

For a complete calendar of events, visit www.aloa.org.

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#### **FEBRUARY CLASS**

6-11 Fundamentals of Locksmithing



For more information, call (800) 532-2562, ext. 101; email education@aloa.org; or visit www.aloa.org/education.

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#### SPOTLIGHT INSTITUTIONAL



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# A Whole New World

A commercial locksmith makes the move into the institutional world. **Tyler J. Thomas, CL, CRL** 

EVEN MONTHS AGO, I BECAME AN INSTITUTIONAL LOCKSMITH. FOR THE PREVIous 3<sup>1</sup>/<sub>2</sub> years, I had worked as a storefront locksmith, or exclusively for residential and commercial clientele.

At the time, to me, an institutional locksmith was simply a locksmith that had the wonderful opportunity of servicing the same facility every day. No more driving, park-

ing and finding customers — a real pain in the city! There were a few reasons for my switch but after my interview, I realized that it would be a great addition to my resume, repertoire and experience level.

I also realized that it would be very trying and demanding — but if locksmithing weren't full of challenges, would most of us even bother?

#### **The New Job**

I was unfortunate enough to take on a job for a facility that hadn't experienced key control in more than 30 years. With the exception of a few hundred Kaba Peaks or Best Coremax cores out of the 7,000-plus doors at the facility, there was no patent protection on the "master key systems" in place. There definitely wasn't a method to the madness. No records, aside from an in-

complete bitting list, and definitely no key control policy to be found. I had to find a way to not only regain key control, but to do so with the typical obstacles an institutional locksmith faces.

I found out, as most of you know, that theory and application can be wildly different. A key control policy seems simple enough on paper: You create a policy and the applicable forms, and the staff should follow; all is well. In reality, that's not the case, and I had to find that out the hard way.

Unfortunately, most employees and even some managers/supervisors don't value key control until it's been compromised at the expense of the facility or, even worse, a human being. Not to worry, I had experience as a salesman. I laid out the cons of such a lack of security and presented the case for common sense. The response was underwhelming to say the least, I suspect because of the projected cost I included. Lesson learned.

A key control policy at best is a theory based on absolute certainty and control. A key control policy at its worst is a failed application of that theory. I say "failed application" because I don't recognize an absence of a key control policy as key control whatsoever. I've found that the institutional 'smiths that got it right have nearly transcended this practice into perfection of said theory; an excellent inspiration deserving praise.

I learned again, very quickly might I add, that there is only so much that theory can prepare you for. You'd better be willing to learn and adjust, or your quest for key control will be nothing more than a futile attempt at the aforementioned perfection.

#### **Red Tape**

Then there were the politics behind it, or bureaucracy as I was told on the Clearstar forums. I found that it was not all that bad, more so just the ebb and flow of the job. There existed a certain hierarchy, a certain methodology and an order to perform my job competently; I had to work with this. "A key control policy seems simple enough on paper: You create a policy and the applicable forms, and the staff should follow; all is well. In reality, that's not the case, and I had to find that out the hard way."

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This was perhaps the biggest change in my transition because at times it can seem, well, backwards.

Remember, an institutional locksmith doesn't have the luxury of working for a locksmith-oriented company; we are merely just one piece in a larger puzzle. I learned quickly that it's best just to follow the flow on most things and only go against the flow of things that you absolutely cannot compromise on. For me, it was key control.

I didn't mind doing extra work for other departments. I didn't mind staying after for emergencies. And I definitely didn't mind giving solutions to life safety or security issues that my supervisors asked for, or as I called it, "my time to shine." I wanted to be thought of as reliable, honest and knowledgeable. You know, a locksmith.

I also learned what budgets were and how they impacted my job. As a storefront locksmith, I helped with bids on jobs or projects. If customers didn't like the price, they would hire another locksmith instead. As an institutional locksmith, I learned that the job had to be done, whether or not supervisors approved of the price we were quoted.

Yes, every locksmith makes a consciousness decision to save money; a lower price for the locksmith, after all, translates into a lower cost for the customer and thus a better opportunity for a potential job. However, if the solution you had in mind doesn't match that of your immediate supervisors, it's back to the drawing board until you're painting the masterpiece they're envisioning.

#### **More On-the-Job Discoveries**

Placing orders using purchase orders took on a brand new meaning. My previous boss used to tell me, "Just use my name as the PO," and that was that. Whatever I needed was ordered and the job was completed. Man-oh-man, do I miss that luxury. Now it's quite the process.

I must obtain a quote from a distributor, transfer that to my supervisor for his approval, then to his supervisor for his approval, and then to the purchasing department for a purchase order, and then back to me to send the distributor the PO. You can see the potential for disruption if a part of the chain isn't as prudent as you'd like to be. But this is reality. Maybe your process is different (hopefully for the better), but if not, you can share my pain.

I learned that an institutional locksmith often has to think far in advance for his/ her need for inventory. One box left of key blanks was no longer as comforting as it was a year ago.

Inventory was another thing. I learned to be frugal but not crazy. As a commercial locksmith, I wouldn't hesitate to recommend new hardware as it was needed. As an institutional locksmith, I had to make it work even if I didn't have a replacement part or the replacement part wouldn't be in for quite some time (i.e., on order).

I won't say I didn't throw anything away, because there are definitely parts that are not reusable. A mortise lock's latch that has been worn into a totally different shape is not worth saving, for example. But I did learn to recognize parts that might still have life in them, and I held on to them just in case. On a side note, I've found this new approach encroaching into my personal life, much to the dismay of my fiancé.

#### **Taking Control**

With these obstacles in mind, I sought to develop key control at the facility. That meant an actual key control policy, actual key and rekey request forms, cooperation with HR and security, and then finding a way to deploy this in a way that wouldn't break my department's budget.

Oh, and I had to construct a massive master key system for a 1.8-million square foot, 7,000-plus door facility with 10 satellite buildings scattered across metro Atlanta. A special thanks to Jerome Andrews, Billy B. Edwards Jr., and Don O'Shall for their offerings on the subject.

Seven months after my first day, I am proud to say that the only thing left to do is begin installing the cylinders, which we anticipate will occur at the first of year. That's going to take awhile, and more headaches are sure to show themselves, but they say "An institutional locksmith doesn't have the luxury of working for a locksmith-oriented company; we are merely just one piece in a larger puzzle."

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Rome wasn't built in a day, so I'll continue taking things one day at a time.

And if I could talk to myself seven months ago or to any prospective locksmith interested in institutional work, I would say this: There will be pros and cons as an institutional locksmith, just as there were as a storefront or mobile locksmith. At the end of the day, however, no matter where you go to work, no matter who you go to work for, you are a locksmith.

A locksmith takes knowledge, trust, and professionalism, and transforms it for the customer, or employer, into a tangible solution with life safety and security in mind, despite any obstacles he/she may face. Embrace these opportunities and fortunes because they will ultimately make you a better locksmith. Don't be afraid of relearning what you thought you knew or learning what you never expected. And have fun, because that's what this profession is all about.  $\mathfrak{D}$ 



Tyler J. Thomas, CL, CRL, is an institutional locksmith in Atlanta, GA. He is a proud member of ALOA, Clearstar Security Network, and the ILA.

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#### SPOTLIGHT TECHNOLOGY



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# Basic Electricity for Locksmiths

Learning the fundamentals of power will help your journey into electronic access control. By Greg Perry, CML, CPS

LECTRICITY RUNS OUR WORLD; MOST OF US WOULD NOT KNOW HOW TO LIVE WITHout it. Everything from the lights in your house or office to the power tools you use, even the ignition in your vehicle, requires electricity to provide the spark. We all understand it exists, but how much do you really understand about electricity? Do you know the difference between AC and DC, or how to figure out how many amps are in 1500 watts? Ever wonder why a 9-volt battery will tickle your tongue but not your palm? Do you know how to work safely around electricity? There are lots of questions. Over the next few months, I'll look at the answers and tailor the information to how it relates to everyday life for locksmiths both on and off the job.

Before starting any type of work you need to understand how to work safely. Electricity is no different than any other form of energy. It can be extremely dangerous, but properly controlled, it is very useful.

Books have been written about electrical safety. This article will briefly suggest the most common form of safety. Before exposing yourself to an electrical source above 50 volts, unplug it or turn it off at the circuit breaker, and lock it out with a padlock or a commercially available lockout kit — and don't forget to add a tag with your name on the lockout lock.

#### Important Concepts

Before we can discuss much, we need to define some terms and provide some analogies. Electricity is the movement of electrons through a conductor. Generally the conductor is a metal wire, most often made of copper, but it can be tap water, our body or many other substances.

Electricity cannot be seen, smelled, or even felt — at least not until it starts to flow

through your body. Since this can be a very complicated subject, we'll keep the terms simplified. Some people find the analogy of water in a pipe is helpful, but it's not a perfect analogy — for instance, you can see and feel water.

There are a couple of big differences for us to be concerned with. First, water is pushed by a pump or pulled by gravity and only requires a one-way trip. Electricity requires a round trip for the electrons to flow. Open a water valve and it flows. Electricity doesn't flow until there is a round trip path, i.e., something is plugged into the outlet or connected to the battery. The second important difference is that water is controlled by a valve to limit the amount flowing; electricity only takes or uses what it needs to light the bulb, spin a motor or perform some other work.

The first term and perhaps most common term used is voltage, or volts for short, sometimes referred to as electromotive force. The abbreviations for voltage are "V" and "E" depending on preference. Voltage is the pressure used to push the electrons through the conductor; in water it is analogous to water pressure, measured in PSI, or pounds per square inch.

Ampere, or amp, is the quantity or amount of electrons flowing; in water, think gallons or the amount of water. Ampere is also called current, and it is abbreviated "A" or "I." At least one reference I found suggested "I" might be for intensity.

Wattage, or watts, is the combination of the two; it also sometimes called power. Wattage might best be thought of as work. Volts multiplied by amps equals watts. Again, there are two choices for abbreviations, "W" or "P." If the voltage goes up, the amperage can go down to do the same amount of work. Using our water analogy, if you double the pressure, the pipe size could be cut in half and still fill a drum in the same time.

The last important term to know is resistance, or friction. It is the opposition to the "Electricity cannot be seen, smelled, or even felt at least not until it starts to flow through your body."

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flow of electricity. Resistance is measured in Ohms, abbreviated "R," and is represented with the Omega symbol from the Greek alphabet,  $\Omega$ . Resistance varies between materials. As an analogy, walking through water is more difficult than walking through air because of resistance.

#### **Tying It Together**

Now that we have some terms, let's look at how the four terms relate to each other. Ohm's law states E=IR. As an example, a system operating at 12 volts will have .5 amps of current at 24 ohms of resistance. Drop the resistance to 12 ohms, and current will increase to 1 amp.

Watt's law adds power to this equation; it is written as P = EI. An easy way to remember the equations is PEIR. Broken apart P =EI or E = IR. Ohm's law is used by electrical engineers to design electrical equipment; it can also be used for troubleshooting.

When a device lists the amperage used at a given voltage, or a table lists a wire size to use for a certain distance, Ohm's law was used to calculate it. Watt's law formula might be more used by us in day-today life. Frequently, equipment (especially heating equipment) lists the wattage on the label or box.

Any guess on how many amps are needed to operate the 1500-watt hair dryer? Before we can calculate, we also need the voltage. In the U.S., it is 120 volts 1500 = 120 times 12.5, or 12.5 amps of current. The outlet in your bathroom might be connected to a 15- or 20-amp circuit breaker or fuse. Plugging two hair dryers into the same outlet or circuit will probably cause the breaker or fuse to blow, since two dryers together will pull 25 amps.

Watts, or technically kilowatts (kilo means 1000), are how the electric company bills us. You will notice on your bill the charges are based on kWh, or kilowatt hours. A 100-watt light bulb left on for 10 hours, or 10 bulbs for one hour, is one kilowatt hour (100 x 10 = 1000 or 1 kilowatt hour). The actual dollar amount billed will vary depending on your rate and the tier or level of usage and the extra charges.

#### AC/DC

We have two basic forms of electricity: AC, or alternating current, and DC, or direct current. They are essentially the same energy; AC cycles in the form of a sine wave, and DC is a steady push of power. The number of times AC cycles in a second is called hertz. In the U.S., we have 60-cycle power; other countries use 50-cycle.

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A brief and simplified history lesson: When electricity was first being used as a form of energy, Thomas Edison was pushing for DC as the standard, but it was hard to send over long distances compared to AC, which could easily be stepped up or increased in voltage at the generating station and then dropped back down where it was needed. Nikola Tesla worked for Edison for about a year before they parted ways, partially because Tesla thought AC was a better way to supply electricity. He went to work for Westinghouse, and with their backing, AC became the standard.

AC does have its drawbacks, though. Because it is constantly changing, it's not as clean as DC. Most lighting, motors, heating and some other equipment doesn't mind the cycling of AC. Computers, LED lighting, recharging batteries and almost anything with a plug-in power supply requires DC voltage to operate.

It's easy and relatively inexpensive to change AC to DC, but changing DC to AC

is much more involved. Changing AC to DC involves a couple of inexpensive parts called a bridge rectifier and a filter capacitor, both of which we'll look at in a later article.

If you want cleaner power, add a few more parts and a battery, and the power is clean. The cleaner you want the DC to be, the more expensive the power supply will be. However, it's still inexpensive compared to purchasing a high-quality inverter that converts DC to AC. Most of you are aware of the cost of an inverter when you purchased one for your service truck. A good quality inverter might start around \$500. Because DC is normally on at full voltage or off, recreating that smooth wave is very costly. Some less-expensive inverters will create a modified sine or square wave where they step it up and down, but this is not a true sine wave power.

The vast majority of electricity in the U.S. is created with AC generators. The basic

"Voltage is the pressure used to push the electrons through the conductor; in water it is analogous to water pressure, measured in PSI, or pounds per square inch."

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concept is to either spin a magnet inside a coil of wire or a coil of wire is spun inside an electro-magnetic to create the electricity. The power to turn the generator varies from wind, water (like behind a dam or in a river), or water that's heated to turn into steam and drive the turbine shaft of the generator. DC voltage can be generated by turning AC into DC, as mentioned earlier, or it is produced through a chemical reaction like in a battery, or with photovoltaic cells.

Now that we know a little about some electrical terms and the difference between AC and DC, we'll look ahead to the next article in this series, where I'll start adding some components to our knowledge base — things like diodes, resisters, outlets, switches and metal oxide varistors. *So* 



Greg Perry is a Certified Master Locksmith and Certified Professional Safe Technician, working in all phases of locksmithing. He has taught various locksmith topics for 10 years. He currently works in the public sector as a locksmith. He has worked in the hardware industry

since 1975 in wholesale, retail and institutional settings. He has written extensively for locksmith magazines and is a three-time *Keynotes* Author of the Year. Any opinions expressed by Greg in his articles are his alone and do not reflect any official government position.



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Each year advertisers lose millions of dollars to "bogus" yellow pages billing schemes. Authorities estimate that one out of 50 of these "bogus" bills gets paid.

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But take a closer look... most of these "invoices" are in fact solicitations for advertising in alternative directories. These alternative directories are often hybrids in scope and have limited distribution – if they are published at all. If not read carefully, these "Directory Listing Forms" could confuse the consumer into paying for advertising they really don't want or need.

#### BVK Direct is working to help protect our

clients. This flyer illustrates tips on how to identify a Bogus Yellow Pages Invoice and what to do if you suspect you have received one.

If you have questions or need additional information, contact your BVK Direct representative listed on the lower right hand side of this document. You may also fax us a copy of any "listing authorization form or invoice" you receive in the mail and BVK Direct will help identify the source for you.

#### What do you do when you suspect you have received a "Bogus" order form for Yellow Pages advertising?

(1) Inspect the mailing carefully to determine the publisher's name on the bill or order form. If it's not someone you usually purchase advertising from, it's probably not a genuine solicitation.

2 Remember, BVK Direct is your national Yellow Pages agency and certified marketing representative. All communications regarding Yellow Pages advertising in all directories will be sent to you by your BVK Direct account manager on our company letterhead or computerized order forms, or via email.



(3) Take a good, long look at your bill before you pay it. Again, if you are unsure, fax a copy of the bill first to your BVK Direct account manager.

(4) Remember, the "walking fingers" logo was never trademarked by any of the original bell telephone companies, or any other "official utility telephone company". That means anyone can use this logo, and they do! This is misleading to customers.

5 The bogus solicitation often refers to a "statewide", "internet", or "interactive "Yellow Pages directory. Often, there is no customer service telephone number or address printed on the form for easy reference. You might see a phrase that says, "This Is Not A Bill".

6 If you have already signed an order form and returned payment, it is probably too late to get your order canceled. But do

not send any more renewals and notify the company in writing to remove your name from their mailing lists. Also, beware of "Discount Incentive" check scams that require you to commit to an advertising program in order to receive any money. These scams are usually sent as checks for a very small amount. However, cashing it is considered as approval for the contract. If you have any questions or would like more information, please call your local BVK Direct representative listed below.



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PHIL DOMENICI DESCRIBES TWO METHODS FOR DRILLING SMALL FORMAT INTERCHANGEABLE CORES.

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nterchangeable cores come in a variety of formats, but the small format (SFIC) is the most abundant, especially with large retail stores. Learning how to drill these when approached with a lockout or a lost control key is essential. This article looks at two methods — the first is the more popular and faster option, while the second provides the ability to create a control key after removing the core.

#### Method 1: **Drill and Remove**

The first and most important step is planning your drill point. I prefer using an automatic center punch (see Figure 1) to not only make my mark, but also to create a nice crater to guide the tip of the drill bit.

*Figure 2* shows the mark that was made, centered below the "E" and "S" from the BEST stamp. This mark is not arbitrarily chosen; it's centered horizontally to attack the pins, and its vertical position will attack the control sheer line.

The core is ready to be drilled. However

there's one piece of information that needs to be collected: the length of the core. SFIC will either come as 6-pin or 7-pin. The easiest way to count the pins is to grab a change or master key and simply count the cuts. If a key is unavailable, then directly count the pins by either scoping the core or using a hook pick. This information is important so that the back of the core is not drilled, or a seventh chamber isn't left undrilled.

It's time to drill. Chuck the <sup>1</sup>/<sub>8</sub>" drill bit and begin slowly at the mark, keeping the drill level and straight. After drilling the face, the bit will begin to drill the pins. At this point it will become very apparent after each chamber is penetrated. This is a good way to keep track of the distance the bit has traveled. Another technique is to keep a core



Figure 1. An automatic center punch can mark the drilling point and create a crater to guide the tip of the drill bit.



Figure 2. The drill point - centered below the "E" and "S" in the "BEST" stamp - is centered horizontally to attack the pins.

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#### STEPBYSTEP: DRILLINGSFICs



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Figures 3 and 4. After drilling a significant distance (4-6 chambers), put a piece of electrical tape on the bit right at the face of the core (image at left). Pull the bit out and gauge the length with the sample core (image at right).



Figure 5. This image shows the ideal drill job: There were no broken bits; there's a  $\frac{1}{8}$  hole; the drill point was spot on; and the back of cylinder was not compromised.

(not in a housing) handy to use as a ruler. After drilling a significant distance (4-6 chambers), put a piece of electrical tape on the bit right at the face of the core (*Figure 3*). Pull the bit out and gauge the length with the sample core (*Figure 4*).

After all six or seven chambers have been drilled, stick a flat-head screwdriver into the keyway, and force the plug to rotate. If drilled properly, the amount of force should be minimal. If the plug does not rotate, first try scraping out any debris or broken pins with a hook pick and try to rotate again. If you again have no success, re-drill the same hole using a larger bit (<sup>5</sup>/<sub>92</sub>"

is recommended).

Typically if a larger bit is needed, it's due to the drill point being a smidge too high. When drilling an existing hole, the slightly larger bit will want to plunge through the hole rather fast. Maintain control on the drill, and do not let the bit get away. A broken bit is almost inevitable with poor control. Repeat using a screwdriver to turn the plug after the larger hole has been drilled, and continue to scrape any debris out of the cylinder. Continue this process until success [7/32]" should be the maximum size needed; otherwise the drill point was significantly off or pin(s) were left untouched]. *Figure 5* shows the ideal drill job: There are no broken bits; the hole is <sup>1</sup>/<sub>8</sub>"; the drill point was spot on; and the back of cylinder was not compromised.

#### Tool Time

Here are the tools you'll need for the first method:

- Drill of your choice
- 1/8" drill bit (the sharper, the better)
- Automatic center punch (optional)
- Tool of your choice to grab and pull the core

SHIFT\_the way you move



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#### STEPBYSTEP: DRILLINGSFICs

#### Method 2: Drill & Decode

This second method begins almost the same as the first, except the position of the drill point is moved up slightly to the absolute center of the core's top half (*Figure 6*).

The next step is to chuck the <sup>1</sup>/<sub>2</sub>" drill bit and begin drilling at the mark, but first the goal needs to be understood. This method is to drill and remove the core to decode the control key, so not a single pin can be damaged. The control lug cannot be damaged either — otherwise, shimming will become virtually impossible. The goal is to remove the core's face to expose the control lug, after which the control sheer line is shimmed from the front using a cylinder shim and hook pick. I will explain this in detail later, but the primary thing to keep in mind at this step is to not drill too deep.

The <sup>1</sup>/<sub>2</sub>" drill bit almost covers the entire

top half of the core. (Note: The bit cannot have a pilot tip; otherwise, the bit will drill too far prior to creating the desired crater size.)

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The bit needs to drill far enough to disconnect the face from the body, but once again not too far to hit the pins (about  $\frac{3}{32}$ " deep). The  $\frac{1}{2}$ " bit will not complete this job alone. After making a nice crater in the core, use the  $\frac{1}{8}$ " bit and drill on the crater's left and right sides. It won't take much effort for the bit to penetrate the face. Stop drilling that particular hole when this happens, or if it appears to have drilled far enough.

Figure 7 shows the core after it has been attacked by both drill bits. Notice the three divots made by the ½" bit. This amount will be different depending on the core and the drill points. There can be more if desired, but keep these drill points above the center line of the original mark; otherwise, the bit may damage the control lug.

#### **Tool Time**

Here are the tools you'll need for the second method:

- Drill of your choice
- 1/2" & 1/8" drill bits (no pilot tip for the 1/2" bit)
- Automatic center punch (optional)
- Hammer and standard nail set
- Cylinder shim

will make sense when executed. After the core looks similar to the one shown in *Figure* 7, use a nail set and a hammer to attack the 1/8" drill points. Do not hammer the nail set into the body of the core — attack the face laterally. The face will begin to break free from the core. Take the nail set or a scribe, and start prying underneath the face. This can prove to be extremely cumbersome and will require patience, but the face will eventually disconnect (*Figures 8 and 9*).



**Figure 6.** This second method begins almost the same as the first, except the position of the drill point is moved up slightly to the absolute center of the core's top half.



Figure 7. The core has been attacked by both drill bits.



Figures 8 and 9. The core and face are separated. All of the damage to the body of the core was kept above the control lug and shallow enough to never hit any pins.



Figure 10. The core has been fully shimmed and rotated.

All of the damage to the body of the core was kept above the control lug and shallow enough to never hit any pins. With the control lug exposed, take a cylinder shim and a hook pick to shim the control sheer line. Once all six or seven pins are shimmed, take any flat object and rotate the plug to remove the core (*Figure 10*).

#### **Calculating the Control Key**

Now that the core has been removed with no damaged pins, the control key can be decoded. (Note: This decoding process is for the A2 System.)

Carefully evict each chamber one at a time, keeping all the pins in order. (I will not go into depth on this step, as basic SFIC knowledge is assumed). With all pins safely on a workbench or pin tray, separate the driver pins (top pins) from the bottom, master (if applicable) and control pins. Do not toss them aside; just move them out of the way, maintaining their order to visually help the decoding process.

Get out a pad of paper and a pen, and measure each pin with a caliper, taking note of each measurement in inches. Ignore the driver pins. After all measurements have been taken, convert the size of the pins from inches to their respective pin size. Keep in mind that with any pin tumbler, pins (mostly bottom pins) will typically be shallower than their original factory size due to wear. Compensation will be needed when converting. Use the conversion chart on this page.

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Calculate each chamber separately. To retrieve the control key bitting, add all the pins together (remember to ignore the driver pin) and subtract 10. For example: If the bottom pin was a 3 (.1475"), the master pin was a 4 (.0500"), and the control pin was a 9 (.1125"), they would add up to a total of 16. Subtract 10, and the result is a 6-depth cut for that chamber. Remember that there will always be a bottom and control pin; however, the amount of master pins will vary.

There is a faster way to calculate the control key, and that is by solely using the driver pins. I do not recommend this method because if the core was pinned improperly, the math to calculate the control key will be off. The chances of improper driver pins are slim, but not bulletproof. Remember that each pin stack needs to add up to 23 when pinning a core, but all keys will still operate properly even if a driver pin is the wrong size. This is why I prefer the initial method to this faster but riskier method.

To calculate using the driver pins, take the measurement of each driver pin and convert them to their pin sizes. Subtract the pin size from 13, and the result is the depth of the cut. For example: If the driver

#### **Conversion Chart**

Bottom Pins		Top Pins	
.1100"	0	.0250"	2
1225"	1	.0375"	3
1350"	2	.0500"	4
1475"	3	.0625"	5
1600"	4	.0750"	6
1725"	5	.0875"	7
1850"	6	.1000"	8
1975"	7	.1125"	9
2100"	8	.1250"	10
2225"	9	.1375"	11
		.1500"	12
		.1625"	13
		.1750"	14
		.1875"	15
		.2000"	16
		.2125"	17
		.2250"	18
		.2375"	19
	1.11		

pin is a 7 (.0875"), subtract 7 from 13 and the result is a 6. To reiterate: this method is much faster, but the driver pin needs to be correct.

This drill-and-decode method will typically not be used, as it takes much longer to execute. However, if a job requires that a fair amount of cores need to be drilled and it's already known that the lost control key operated all of the cores — this method will be beneficial. Not only will the labor be reduced, but also only one core will be sacrificed. 𝔅



Prior to diving into locksmithing, Phil Domenici's career path was headed in the direction of computer sciences with a focus in network security. After much of his childhood and teenage years, his love for computers was exhausted — and after a single seminar of picking locks, he was

hooked onto his current (and only) career. He has worked as a professional locksmith for five years and has been employed in Virginia, Hawaii and California while learning and practicing almost all areas of locksmithing, including commercial, residential, automotive, access control and safes.

# WATCH THUS SPACE

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When it comes to cutting keys, spacing is as important as depth perhaps more. By Jerome V. Andrews, CML

n the quotidian grind of the lock shop, we should occasionally stop to entertain the obvious. First, code and duplicating key machines should be as accurate as possible.

Second, customers bring non-original keys to us for duplication, and we are constantly telling them that the duplicate may not work because of the condition of the sample.

Machine adjustment is not always easy. Many of us have relied on how the key feels in the cylinder, and there is certainly something to that as part of the test.

While I worked at Kaba when it was in Southington, CT, I had the luxury of a large, floor-model optical comparator. We used

"It is important to know where a hole is to be dug before you start digging. Get the spacing right first, then adjust the depth."

it to make sure Peaks keys were accurate, and to check samples from the field. I was surprised to learn how forgiving some cylinders were and how much play some machines had.

Measuring cut root depth is relatively easy, although it takes some practice to become consistent with a caliper. But absent some kind of comparator, measuring spacing is extremely hard. Trying to eyeball down the pin chamber is unhelpful.

There is a small tool I've dubbed a "check plug" that I've found useful *(see Figure 1)*. Mill away the center of a plug of a keyway of your choice. I think it best to select something for which the spacing is especially sensitive. Leave the ends intact to support the key, and only cut partway into the pin chambers to retain the pins. Even OEM plugs may be slightly off print. When making a check plug, always use an OEM cylinder and inspect it with a factory cut key before using it to adjust machinery. Don't be ashamed to use a magnifying glass.

The check plug can be used to determine how far off the spacing is on a machine and to confirm the accuracy of a final adjustment. Make a key and pin the plug to it. Closely examine it to see exactly where the bottoms of the pins are resting when the key is stopped.

In *Figure 2*, the pins are riding up the sides of the cuts. In *Figure 3*, the pins are at the cut's extremity, just about to start riding up the sides. We want to see the pins centered on the cut roots (*Figure 4*).

If you make a few check plugs in common keyways like Schlage C and Kwikset, they



**Figure 1.** You can make a check plug by milling away the center of the plug. Use the check plug to determine how accurate the spacing is on your code machine and to confirm the accuracy of a final adjustment.



Figure 2. The pins are riding up the sides of the cuts. The cut centers are too close to the bow stop.





Figures 3 and 4. At left, the pins are at the extremity of the root. At right, the pins are centered in the cut roots.

can be used to show a customer why duplication of a poor sample is risky or impractical.

Sometimes a technician will alter the depth adjustment of a code machine when the problem is really the spacing. This will cause problems cutting other types of keys.

It is important to know where a hole is to be dug before you start digging. Get the spacing right first, then adjust the depth. @



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from his home in Cleveland, providing support to technical services, master keying, product management and engineering.

## CHOOSING THE RIGHT ELECTRONIC PRODUCTS

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Look for these product features to make your transition to electronic access control easier and more profitable. **By Rick Shuford, CRL** 

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**Figures 1 and 2.** At right is a side view of a lock cutaway showing Kaba Access Control's LectroBolt mounting screw; above is the LectroBolt, which eliminates the risk of pinching wires during installation, according to the company.

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Figure 3. Besides installation and mechanical features, also look for electronic features such as battery-free operation; programming at the lock or via software; and full audit trail capability.



ET'S FACE THE FACTS: THE DAYS of installing Grade 3 locksets and deadbolts are coming to an end, especially with big-box hardware stores selling inexpensive locksets. Locksmiths should consider a different approach and branch out into specialty fields, such as standalone electronic access control locks. Creating a niche in your region could actually save you time and money compared to traditional locksmithing.

If you choose the right model, you can install electronic access control just as easy as you've installed the mechanical pushbutton locks that have been around since the mid '60s. Electronic pushbutton/card locks are available in a wide variety of flavors, and there are off-the-shelf models to satisfy virtually any customer requirement.

Pushbutton locks as a whole were designed as a convenience lock — not to replace the key override but to eliminate the need for key distribution. It remains a good idea to install a key override in any pushbutton electronic lock as an emergency backup.

#### **Buying Considerations**

**Price.** Price is a good starting place, but locksmiths should always research and compare features and benefits prior to making a final decision on what brand and type of electronic access control lock to install. Of course, you'll also have to take into account the customer's specific application, which varies from job-to-job. **Installation.** Also consider the installation time required for the various models. Features that save you time in the field make your business more profitable. For example, standalone access control locks that don't have wiring routed through the door make more sense. One product series uses an insulated stainless steel bolt that transfers the power from the power supply through the door to the electronic module, thus eliminating callbacks due to pinched or damaged wires. It's as easy to install as a mechanical lock *(see Figures 1 and 2).* 

Flexibility. Likewise, you'll save time and frustration if you don't have to purchase additional components to accommodate different door thicknesses. Choose a lock that can accommodate thicknesses ranging from 1%" to 2¼" without the necessity to purchase additional components, and you'll be in good shape.

**Spare parts.** Also verify that there are adequate spare accessories included with the lock. The better manufacturers offer a selection of hardware in the box to accommodate most standard application requirements, and include a variety of tailpieces for cylindrical units. This is an important consideration to ensure the lock will meet the requirements for the end user's existing master key system. Most manufacturers require you to use their specific tailpiece, so make sure they are supplied in the box at no additional cost. **Rating.** I recommend that you stick with BHMA Certified Grade 1 locks that meet the UL 3-hour fire rating. Keep in mind that you'll be able to accommodate more customers if you choose a model series that offers cylindrical, mortise and exit trim locking device options, as well as a standalone controller option. For models with audit trail, make sure the use of the mechanical key override is detected, and shown in the audit trail report.

#### **Electronic Features**

Moving beyond installation and mechanical features, there are also some advantageous electronic features that I strongly suggest you consider.

No batteries required. The first is a standalone electronic pushbutton lock that uses PowerStar technology, which does not require any batteries. Each time the lever is rotated, power is generated and stored in the lock to operate it when a code is entered. These units can be programmed at the lock, or by using software. They allow full audit trail capability, including the key override function. Now that's progress, in today's energy efficient and "green" environment (*Figure 3*).

No wires required. There are also standalone electronic locks that can be upgraded to operate wirelessly. When deciding on a wireless access control system, look closely at how the product operates. Does the existing lock hardware need to be replaced, or can a simple add-on wireless component be installed to the existing lock hardware? Is the wireless system totally wireless, or is "hidden" wiring needed for the system to operate? Does the wireless system take up bandwidth on the customer's network (*Figures 4 and 5*).

Card access. More recently, card access

has become widely used on standalone electronic access control locks because the cost per door is less than a typical wired door, and less hassle to install in many applications. When it comes to card access, consider selecting a lock that allows the enrollment of cards with or without the use of software. Some manufacturers offer card enrollment manually at the lock, with no software whatsoever.

Keep in mind there are a variety of different credentials in use in the marketplace. You don't have to be an expert on the credentials; you just have to match the type of credential being used with the capabilities of the lock you choose. The ideal is to choose a manufacturer that has



**Figures 4 and 5.** Some electronic access control products can be upgraded to operate wirelessly with a simple add-on component. "The days of installing Grade 3 locksets and deadbolts are coming to an end, especially with big-box hardware stores selling inexpensive locksets."

one system that works with a wide range of credentials to minimize the learning curve even more. The most popular credentials in use today are HID PROX cards, DESFire, Mifare, *i*Class and FIPS 201 card credentials (*Figure 6*).

**FIPS 201.** If you're not familiar with FIPS 201 cards, I'll give you a brief introduction. There are approximately six million FIPS (Federal Information Processing Standards) 201 Cards in use today. The numbers continue to grow as the cards are mandated for virtually all U.S. government personnel, from the military to the Social Security Administration, as well as many government contractors.

When choosing a lock for these applications, select one that supports PIV (Personal Identity Verification) and the 80-digit CHUID (Card Holders Unique Identifier), in lieu of just the 40 digit FASCAN (Federal Agency Smart Credential Number) number. With government facilities and our military's security at risk, why even consider installing a lock that does not comply with the entire FIPS 201 Standards Mandatory PIV requirements?

**Maintenance.** As you narrow down your product decision, don't overlook maintenance. When situations call for a batterypowered lock, consider the life expectancy of the batteries, as some products use

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Figure 6. You don't have to be an expert on the various available credentials; just match the type of credential used with the capabilities of the lock you choose.

power much more efficiently than others. Today, certain locks can provide 180,000 to 220,000 cycles between battery changes. You'll also want to verify that if there's an electronic failure or the batteries die, the lock will remain functional with the key override function.

DES

#### **Additional Considerations**

It is more difficult to generate profits in today's economic uncertainty, so I encourage you to check all the features before placing an order. If you can install and program a lock in less than 15 minutes as opposed to an hour, your return investment for labor will add increased profits to your bottom line and put more money in your pocket.

From the support side, how well does a manufacturer train and support the locksmith? Is training taught by a salesman or marketing representative, or do they have a dedicated trainer who is a certified and experienced locksmith? How well does the manufacturer support the locksmith through their technical support staff? Consider all points before selecting your standalone electronic access control lock.

I have installed most locks on the market

today, and although most have a few good features, select the lock for all the right reasons rather than basing your decision strictly on price. The final decision is yours to make — choose wisely! You wouldn't purchase a duplicator or code machine primarily on the purchase price without researching the features and benefits, so why should you consider doing this with electronic access control locks?

Most locksmiths are creatures of habit and are not too receptive to change. We tend to think that today's standalone electronic ac-

"If you can install and program a lock in less than 15 minutes as opposed to an hour, your return investment for labor will add increased profits to your bottom line."

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cess control locks are difficult and require electrical license. Thinking in this fashion can only end up costing you lost opportunities and money. My grandfather taught me that tying your shoe is hard — until you learn how. If you don't believe this, ask a three year old.

Locks are the same way. If you think they are complex, it's because you haven't taken the time to research the product and become properly trained. Most local locksmith associations offer some type of training throughout the year. ALOA does a wonderful job offering a great selection of training at their annual locksmith convention. If you've never been to an ALOA convention, I highly recommend participating at the next one. Trust me; you will not be disappointed with the level of training and information you'll receive. @



FEBRUARY 2012 KEYNOTES

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#### **BACK TO BASICS**

# Handy Hints

Check out these tips for everything from marking doorframes for cylindrical lock strike placement to fitting cylindrical locks on thick doors. **By Tony Wiersielis, CPL** 

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NE THING I'VE LEARNED ABOUT THIS BUSINESS IS THAT YOU NEVER STOP LEARNing about it. There's always something new coming out or something old that you might not have seen before. As your experience grows, so does your confidence and ability to figure out the new and unfamiliar.

Experience, however, takes time — sometimes years. This issue I'd like to pass along some helpful hints. These are things I'd point out to a beginner if he were following me from job to job. My explanations are aimed at apprentices, but the more experienced among you might find a number of things useful as well.

I am fortunate in that I come in contact with locksmiths from other parts of the country and pick up different things from them. I also spend a lot of time on construction sites and pick up a great deal of knowledge from other trades, particularly carpenters. For example, I recently found the perfect tool bag being carried by a young electrician. He let me look it over, I bought one, and I love it. Don't be afraid to ask questions of other trades and exchange ideas with them.

#### General Tips

1. Use the latch as a guide. The latch on a lock will determine where the door sits against the stop molding. When doing a new installation on a blank door or one with pre-drilled holes, always install the knob first. This way, a properly installed knob and strike will hold the door in the frame where it needs to be. When you mark the frame for your deadbolt strike, you won't have any issues with alignment. When the door latches, your deadbolt will go cleanly into its strike.

**2. Keep spare cut keys.** If you're doing a lot of rekeying on the road, keep pairs of cut keys on your truck for the brands you use most. Also make up a few sets of three, four and five keys per set. If you're doing an emergency rekey at night and the customer needs four keys, you'll already have a set made up.

**3. Keep spare parts.** Be on the lookout for spare parts that may get you out of a jam. Sometimes when you replace locks for customers, they'll ask you to dispose of the old ones. Before doing so, see if there are any serviceable parts you can use: cylinder set screws from mortise locks, Schlage cylinder caps, tailpieces and those little pins and spring that hold the caps in place.

If it's something that's easily lost or broken, collect a few of them and keep them in a little "oops" box. That box may save you if you drop a spring in the grass at 9 p.m. and can't find it. Just remember not to take any old locks without the customer's permission.

4. Keep your bearings. When installing a high-security deadbolt that comes with

ball bearings to protect from drilling attacks on the screws, the bearings are easy to lose. After you put the bearings in the screw holes, try putting a drop of white glue in after them. You could also use a dab of grease applied with a toothpick into the hole. This will help prevent the bearings from falling into the door when assembling the lock.

**5. Keep a tap and die set.** Have extras of the following sizes: 6-32, 8-32, 10-32, 10-24, 12-24, and ¼-20. You never know when you may need to tap holes for an installation. Learn how to use them and practice on a piece of ½" brass or steel. Remember that taps are hard, but brittle and easily broken.

6. Buy Allen 8-32 set screws for your "oops box." These are used to replace the cylinder set screws in Adams-Rite aluminum door locks. You'll find that the original screws, which require a small common or flat screwdriver, tend to break if they're corroded. By having these replacements ready, you won't go nuts in the middle of the night. They are available at most hardware stores and home centers.

**7. Save some unused screws from new lock installations.** It's not uncommon to open the box of a brand new lock and find the screw pack missing. Anticipate what you might need if this happens, and keep some spares.

8. Try a standard latch screw. If you drop one of the small faceplate screws from a mortise lock, you can use one of the standard latch screws from a cylindrical lock. Both are 8-32, and you may not have to cut them to use them. There's not likely to be anything in the way inside the lock case, but check the lock's function to be sure.

#### Handy Hints for Hole Saws

There are a number of ways to mark your doorframe for cylindrical lock strike placement. Some people use lipstick, or simple tools marking tools that come with installation jig kits. Probably the simplest method

#### **BACK TO BASICS**

I've ever seen is to use a 1" hole saw. There's no extra tool to carry (and lose) since you already have one.

To do it, insert your pilot bit in the saw, but leave it loose. Stick the saw into your edge bore just enough to clear the edge of the door. Close the door, reach your fingers into the  $2\frac{1}{3}$ " hole, and push the pilot bit into the frame. Give it a little twist and pull it back out. Now you have a dead-center mark for your strike.

You could also do it without the pilot bit by pushing the teeth of the bit against the frame and rotating the saw back and forth a few times. Sometimes this works better on a metal frame than the pilot bit. Obviously, don't do this if the marks won't be covered or removed during installation. Using this method works best when using an all-inone mandrel /saw set-up. If you don't like to use this kind of hole saw on a regular basis, buy one to use only for marking strikes; you could always use it in a pinch.

Another trick with a 1" hole saw is used with a cylindrical lock boring jig. There will be times when you're replacing an old deadbolt and find the original prep was not  $2\frac{1}{2}$ ". (A lot of older deadbolts use a  $1\frac{1}{2}$ " hole instead. Some present-day deadbolts are meant for  $2\frac{1}{2}$ " but can be adapted to an existing  $1\frac{1}{2}$ " hole.)

If you must enlarge the hole to 2<sup>1</sup>/<sub>8</sub>" and you have a boring jig, you can use a 1" hole saw to help you line it up. To do this, insert your hole saw half way into the existing 1" edge bore hole. Enlarge the hole if you need to first. Now slide your jig over the hole saw, butt it up against the door and tighten. Remove the hole saw and re-bore the cross bore to what you need it to be. This saves the trouble of eyeballing the edge bore hole through the jig and trying to line it up.

Suppose you need to enlarge a hole and you don't have a jig, or you can't use one because of molding around a glass panel in the door. If you use all-in-one hole saws, in which the pilot bit can pass completely through the attached mandrel, you're all set.

Let's say you need to re-bore a 1½" hole to 2½". Take a 1½" hole saw and insert your pilot bit so that most of it sticks out of the mandrel (*see Figure 1*). Tighten it down, slide your 2½" hole saw over the top of the pilot bit, and tighten the setscrew down tight.

As you can see in *Figure 2*, you've basically turned one hole saw into a pilot bit for another. This is a lifesaver when you need it and set it up with tools you already have. The only real drawback is that you might have to stop and tighten the setscrews while you're drilling. Also, use a lower torque setting on your drill and take your time; there's a lot of torque on the pilot bit. You can use this trick with any hole saw that fits inside another.

It may seem that I'm biased toward a par-





**Figures 1 and 2.** If you need to re-bore a  $1\frac{1}{2}$ " hole to  $2\frac{1}{8}$ ", you can take a  $1\frac{1}{2}$ " hole saw and insert your pilot bit so that most of it sticks out of the mandrel. Tighten it down, slide your  $2\frac{1}{8}$ " hole saw over the top of the pilot bit, and tighten the setscrew. You've basically turned one hole saw into a pilot bit for another.

ticular type of hole saw, and I am. If you're using a different type, try this and see if you can set it up the same way if you need to. I call this "nesting" hole saws and may refer to it as such in future articles.

#### **Counter-Boring**

Once in awhile, you might find another reason to nest hole saws: counter-boring. Counter-boring, in this case, is when you take a cylindrical lock that has to be installed on an extremely thick door that it wouldn't otherwise fit on. It is usually only done when there is an emergency or there is no other possible way to do the installation. It's also something that's only done when the customer understands what you're doing and why, and agrees with you.

Let's suppose you have a 2½" thick wooden door in a warehouse that's been burglarized. The deadbolts you have only work on a door that's 2" thick or less, and it's the middle of the night. The owner is desperate, and no thick door pack screws and tailpieces are available.

Start with a basic 21/8" prep for a cylindri-

"When installing a highsecurity deadbolt that comes with ball bearings to protect from drilling attacks on the screws, the bearings are easy to lose. After you put the bearings in the screw holes, try putting a drop of white glue in after them."

cal lock. Measure the outside diameter of the lock (*Figure 3*). When you've done that, nest your  $2\frac{1}{3}$ " hole saw inside one that's slightly bigger than the lock's diameter. In this example, I'll use a  $2\frac{5}{3}$ " hole saw.

Since you know your lock will fit up to a 2" door and your door is 2½", you need to adjust ½". Insert your pilot hole saw into the door. With the 2%" saw flat and straight against the door, slowly drill in a ¼". Do the same on both sides of the door. When

you're done, there will be a thin ring of wood around the 2<sup>1</sup>/<sub>8</sub>" hole.

Use a sharp chisel to make a few straightin cuts into the small ring. It should then be easy to chisel away the ring. Because it's so thin, pieces should come off cleanly. Now you can install your lock as usual with its standard screw pack. The lock will be slightly inset into the door ¼" on both sides (*Figure 4*).

For beginners, a thick door kit or extended screw pack is usually available from lock manufacturers for use with their deadbolts. You get some extra-long screws and a longer tailpiece to make up for the thickness of the door. To avoid counter-boring like this, it would be a good idea to get a few of these screw packs for whatever brands you sell.

Some of you are undoubtedly thinking, "Why would he do something like that?" Well, the example above actually happened. In another instance, I had a customer who owned a small rehearsal studio that he rented out to musicians by the hour. Since they play rather loudly and he wanted to save his hearing, he soundproofed as best he could,

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**Figures 3 and 4.** Start with a basic  $2\frac{1}{8}$ " prep for a cylindrical lock. Measure the outside diameter of the lock. Nest your  $2\frac{1}{8}$ " hole saw inside one that's slightly bigger than the lock's diameter. With the  $2\frac{5}{8}$ " saw flat and straight against the door, drill in a  $\frac{1}{4}$ " on both sides of the door. After chiseling away the small ring of wood, you can install your lock as usual with its standard screw pack.



including a double layer of sheetrock on the inside of the doors. Using this method, I was able to quickly and easily counter-bore through the sheetrock and install the lock to his satisfaction.

In all, I may have done this a dozen times

in more than 25 years. It's not something I make a habit of doing, and you might never be in this situation — but it's good to know and can get you out of a jam.

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There are several points to remember. First, there's a limit to how deep you can go



Figures 5 and 6. This tool for panic bar repairs consists of a magnetic tool bar and some wire. I bought the magnetic tool bar at home depot for less than \$20, and the wire was left over from a job.

**Figure 7.** The tool holds up the panic bar so the end cap bracket can be marked and drilled.



**Figure 8**. Try using an instant coat hook on wood or aluminum doors.

with this. You need to be able to turn the key and the thumb turn. Second, by necessity you are exposing bare wood that might be visible around the edge of the cutout. A dark-colored wood stain in a pen type applicator can help camouflage this. Third, you need the larger hole saw for this to be viable. Fourth, test this out by doing it on a piece of 2x6. Finally, be thinking about where your latch or bolt needs to be placed.

If it's a thick door and corresponding frame, as in my first example, the bolt needs to be dead center on the door edge. If your door is standard 1-3/4" and something has been added to one side of it (like the sheetrock in my second example), the bolt needs to be dead centered on the door, not the material attached to it.

#### **A Helping Hand**

*Figure 5* shows a tool I made to assist with panic bar repairs. It consists of a magnetic tool bar and some wire. I bought the magnetic tool bar at home depot for less than \$20, and the wire was left over from a job. *Figure 6* is a close-up of the bar's end and one of its mounting holes with the wire attached. You can use any magnet, as long as it's strong enough, and something other than wire if you want. Put thin masking tape on the magnet bar to keep it from scratching the paint while you use it.

*Figure 7* shows the tool in use, holding up the panic bar so the end cap bracket can be marked and drilled. Where this tool really shines is when you need to work on a panic bar wired through the door to its outside trim. Use the tool to hold up the bar while you work so you don't have to worry about accidently dropping it or breaking the wires.

You might be thinking, "Sure, have you got a magnet that sticks to wood?" No, but *Figure* 8 shows something you can use on wood or aluminum doors. This is one of those instant coat hooks that hang over the top of your door; it will accomplish the same thing. All you need is rope, wire or some sort of strap.

#### **BACK TO BASICS**

#### More Hints

*Figure 9* shows a door dolly for moving heavy doors without killing yourself. You'll need two. Use them by laying the door edge in the slot, with one dolly at either end.

Here's another tip: Keep a handcuff key on your key ring. This isn't so you can practice being Houdini; there's a practical use for it. *Figure 10* shows a small pin on the bow of the key. If you file this a little bit, you'll have a miniature pin depressor, which you can use to remove most knobs and levers.

#### **IC Cores**

One of the most frustrating things in this business is an interchangeable core mortise

"Using this method, I was able to quickly and easily counter-bore through the sheetrock and install the lock to the customer's satisfaction."

cylinder with a loose cam. This is especially true changing an IC on a cylinder that's mounted sideways, such as an alarmed panic bar. As soon as you pull the old core, the cam drops out of position and won't stay put if you put it back.

*Figure 11* is a small-format IC cylinder wrench. Both ends of this tool have holes for the pins that the core fits over (*Figure 12*). The large end fills the cylinder core cavity and allows you to use the tool as a handle to install the cylinder. The small end acts the same way a core would, by allowing you to turn the cam or tailpiece as though you had a key. Just insert it in the cylinder and turn it to test the lock.

Here's how to use it to hold a loose cam in place long enough to install your core: Put a dab of grease on the tool's small end. Insert it into the cylinder and position the



Figure 9. Move a heavy door by laying it in the slot, with one dolly at either end.

levers.

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#### BACK TO BASICS Handy Hints



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**Figures 11 and 12**. Both ends of this small-format IC cylinder wrench have holes for the pins that the core fits over. The large end, on the left, completely fills the cylinder core cavity and allows you to use the tool as a handle to install the cylinder.



**Figure 13.** You can hold a loose cam in place long enough to install your core by using either one of the small, black, plastic thumb turns sometimes included with IC locksets, or the small anvil used for peening Best-style cams.

#### "You might find another reason to nest hole saws: counter-boring."

pins (and the cam). When you pull out the tool, the pins should stay in place so you can install the core.

I like to use white lithium grease, which you should have on your truck anyway. In a pinch, you can also use Vaseline, which is also a lubricant. Use just a little; you don't want the core loaded with grease.

You can find this tool at any decent supplier. You can also use one of the small black, plastic thumb turns sometimes included with IC locksets. They're just like the small end of the tool I explained above, but are left in locks during construction so the worker can get in and out without keys. They are often discarded when no longer needed, so they're usually easy to get. The small anvil used for peening Best-style cams will also work. Both are illustrated in *Figure 13*.

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For beginners: When installing cores, especially with mortise locks, don't assume that the cam is in the proper position. Realize that it can be 180 out of phase; in other words, the cam can be upside down. If you have one of these tools, use it to check the timing of the cam before installing it. The last thing you want to be is the locksmith who installed the core upside-down.

By the way, if you're wondering about that "perfect tool bag," it's made by Veto Pro Pac and can be found on Amazon, at most serious hardware dealers and at www. vetopropac.com. @



Tony Wiersielis, CPL, has more than a quarter century of experience, having worked in most phases of the trade throughout the New York metropolitan area.

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# Heip Alga Fight He Scanners

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Scammer locksmiths are a threat to our long-respected industry, undermining consumer confidence with their unethical acts.

The ALOA Locksmith Task Force is now leading the battle against these phony locksmiths. Join us in the fight by contributing to the fund to pursue legal action against the scammers.

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Every dollar counts — and every dollar will be used to stop the scammers.

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To make a contribution, visit www.ALOA.org/LegalFund or send your check made out to "ALOA Legal Fund" to ALOA, 3500 Easy St., Dallas, TX 75247.



LEGISLATION

# A Look at the Latest in Licensing

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New Jersey seeks to streamline professional licensing; Washington's bill stays on the agenda; Florida seeks to streamline in the sun. **By Barry Roberts, Esq.** 

EW JERSEY HAS A NEW BILL THAT ADDRESSES PROFESSIONAL LICENSING, INCLUDing locksmith licensing. While not specifically addressing locksmith licensing, A.B. 4384 intends to streamline reciprocity licensing; it lays out the process for reactivation of licenses that were placed in inactive status, and for reinstatement of licenses that expired and were administratively suspended. If passed into law, applicants seeking reinstatement of an administratively suspended license will be obligated to pay additional fees. This bill requires the division to provide notice that explains inactive renewal and advises the licensee of the option to renew as inactive.

The bill replaces the current provision mandating that all those who were administratively suspended for more than five years retake the initial licensing exam. If passed into law, the bill will go into effect six months following the date of passage.

In Washington state, Senate Bill 5177 has been reintroduced and retained on the agenda. While this bill is technically a revision to already existing law dealing with licensing for other security professionals, this proposal would establish locksmithing as a profession requiring licensing in the state of Washington if it is passed into law.

This bill includes extremely broad language in the definition of "locksmith," and includes such functions as accessing motor vehicles as part of that professional function and peripheral video and related electronic security devices within the licensing requirement. The bill broadly defines "lock" as "any mechanical, electromechanical, electronic, or electromagnetic device, including any peripheral hardware, such as closed circuit television systems, wireless or infrared trans-

"If passed into law, applicants seeking reinstatement of an administratively suspended license will be obligated to pay additional fees."

mitters, card readers, keypads, or biometric scanners that are designed to control access or egress or to control the use of something."

Of note, unlicensed locksmithing is defined as "unlawful" in the current version of the bill, but language defining the criminality of unlicensed or fraudulent locksmithing is absent. Also notably absent are provisions dealing with fees; provisions dealing directly with the locksmith scammer problem; enforcement provisions; a private right of action; false advertising and false representation of licensure provisions; as well as any language at all addressing the issue of licensure for employees or agents of licensed locksmiths.

If passed into law, the additional provisions addressing locksmith licensure will go into effect June 30, 2013.

In Florida, H.B. 517 has been moved into the committee agenda for the Business and Consumer Affairs subcommittee. The purpose of this bill is to reduce and hopefully to streamline existing regulations. It revises continuing education requirements for reactivating license, certificate, or registration to practice certain professions and occupations regulated by Department of Business and Professional Regulation (DBPR) or board or council within that department, which includes electrical & alarm system contracting. *S* 

Barry Roberts, Esq., is ALOA's legislative consultant. You can reach him at legislative@aloa.org.

#### **EDUCATION**

dirty-and-learn classes. Classes that lead to a professional certification achieved through knowledge as well as performance. Beginning in 2012, your ALOA education department is going to be introducing new specialty certifications that will not only require classroom training and a written testing, but many will require hands-on testing as part of the examination.

It is the professionalism of the technicians in the industry that will ultimately separate the good guys from the bad guys. It is through this revamped training and certification of the new ALOA that we hope to bring forth more of the good guys.

So no, we're not gonna take it anymore. Let the new ALOA show you what we can do — for you.

Now where was I? Feelings, nothing more than feelings ... Oh, heck no! ☞

Jim Hancock ALOA's education manager, began his locksmithing career at the age of eight in his grandfather's lock shop in Gulfport, Mississippi. He has worked in every aspect of the business, from shop tech to mobile tech to operations management. In 2003 and 2009, he was presented with the ALOA ACE Award as Instructor of the Year. You can reach him at jim@aloa.org or (214) 819-9733.

# We're Not Gonna Take it!

Education — along with cooperation and money — can help fight the scammers. By Jim Hancock, CAI, CML, CPS

E'RE NOT GONNA TAKE IT, No, we ain't gonna take it We're not gonna take it Anymore

Yes, I am quoting Twisted Sister. For those on either side of the Baby Boomer era, they were what was referred to in the '80s as a "hair metal" band. And no, I am not quoting them on the Education page because we are doing music history this month. I am quoting them because these lyrics should be the sentiment of every professional locksmith when it comes to competing with unethical, unscrupulous and uneducated people invading our industry.

To get these people on the run is going to take several things. It certainly is going to take and has taken time. Sadly, that is a reality and nothing can be done about that.

It is going to take cooperation — cooperation between all of us in the industry and the legal community that can and will help us rid ourselves of the problem.

Yes, it is going to take money. There is nothing worth having or fighting for or against that does not have a price. Again, though it would be nice to know, we do not know what the price tag for this fight is going to ultimately be. I assure you whatever the cost, it will be less than the losses we suffered as an industry to this element.

And finally, it is going to take education. Not just any training but real hands-on, get"ALOA is introducing new specialty certifications that will require classroom training, written testing and hands-on testing."

FEBRUARY 2012 KEYNOTES 39

#### LOCKSMITH TASK FORCE

# How We'll Win the Battle

Here's what you can do to help fight the scammers plaguing our industry. By Mike Bronzell

wenty-one years ago I started out in the locksmith industry. I was as brand new as they come.

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I was basically a self-starter. I joined the two local associations, where I was able to make industry contacts with fellow locksmiths, manufacturers and distributors. Even more important was the knowledge available through classes and just talking to other locksmiths. I was able to learn amazing things to improve myself and my skills. I was able to take on even more things than I ever thought I was capable of.

Over the years I was able to help solve many of my customers' problems. I have always given my customers a fair price and honest estimates. Advertising was always competitive with the yellow book reps pushing larger ads. Regardless of what size ad one bought, we generally did quite well. Even through financially tough times, a locksmith could prosper. Yes, times were good.

I regret to say that times have now changed, and the locksmith industry is under siege by a well-organized group of criminal advertisers based out of Israel. These advertisers have flooded all of the business directories with hundreds of thousands of listings, most of which are fraudulent — they use fake addresses to crowd out the actual locksmiths in a geographical area. What is also disturbing is that the online listings are the worst. The online listings are even loaded with phony reviews to get a better ranking than the real locksmiths listed thereby, forcing them to the bottom of the list. The Internet is the new advertising front, and so far most of us are being outright slaughtered by criminal advertising.

Something that should have been done eight years ago has just been started, and that is ALOA's locksmith task force. Better late than never I say. The task force will need the help of every locksmith reading this.

First I have to say we need to clean our own ranks. Some of these criminals have infiltrated our association and need to be identified, dealt with and expelled. The way these crooks operate is in direct conflict of our code of ethics.

We also need everyone to start researching what's happening in their area (state, county, city, town). I would recommend that groups form in geographical areas to work together. One goal is to identify and document each and every listing we possibly can. I recommend

#### **Help Fight Back!**

To donate to the ALOA task force online, please go to this link: https://secure.piryx.com/donate/TkuChIQm/A

a spreadsheet that lists information such as listed name, phone number, address listed, what directory listing was found, and what is actually at the address. By collectively gathering this info, we can more accurately show authorities the extent of the problem. Anyone who wants to help can contact me at keyman424@aol.com.

I'd also like to point out that your online listings may have been hijacked by these call centers. What this means is that they're going online, switching out your phone number and putting in theirs, effectively stealing your identity and calls. This is not a mistake, and yes, they are targeting individual locksmiths and trying to force them out of business by putting the squeeze on them.

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I would also like to thank Maverick Lock and Jim Heath for setting up the Maverick Lock/ALOA Task Force promo. This promotion is aiming at raising \$50,000 for the task force. I recommend that everyone check out some of these deals, which will help raise money for the task force. The promo offers a complete Grade 1, 2 & 3 lock hardware line that includes lever sets, deadbolts, exit devices and door closers. More info can be obtained by calling Maverick Lock at (877) 529-0729. Ask about the ALOA task force promo. Also, here is a link to the promo: http://www. mavericklocks.com/ALOAPromo/Maverick\_ALOA\_Task\_Force\_Promo.pdf @



Mike Bronzell is the chairman of the ALOA locksmith task force committee. He has been the owner of All Hour Locksmith in Chicago's southwest suburban area since 1990. You can reach him at keyman424@aol.com and taskforce@yegg.info.

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## **Industry** PERSPECTIVE



### "Adapt to What Customers Want"

For an insider's perspective on electronic access control, we spoke with **Mark Allen**, the marketing manager for Kaba Access Control in Winston-Salem, N.C.

## **Q.** Where do you believe that electronic access control (EAC) is headed for the locksmith inductry?

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**A.** It's certainly here to stay. There are so many additional features that electromechanical products and systems offer the end user that a mechanical system cannot provide. It's better to adapt your business model to what customers want to buy moving forward than to be dependent on selling products and services that are declining in demand.

#### **Q**. What challenges or hurdles does EAC present for locksmiths?

**A.** For locksmiths who have not made the transition yet, it is primarily a mental hurdle. They may perceive EAC to be difficult or complicated, but it doesn't have to be. For example, while many EAC products work with computer software, there are a variety of electromechanical products that don't, or for which software is optional. Installation of an electromechanical system can be as easy as installation of a mechanical lockset if you make smart product choices.

#### **Q**. What opportunities does EAC present for locksmiths?

**A.** In addition to keeping business that might be lost to other security professionals, EAC presents opportunities for locksmiths to get new business that traditionally would have gone to security system installers. This is because EAC solutions exist today that can deliver the same real-time functionality of a wired access control system without having to run wiring.

Locksmiths have an advantage here because they understand door preparation, door hardware and proper mechanical alignment better than security system installers. Regardless of the electronic features built into the electromechanical access control product, you still end up retracting a mechanical latch in most instances, and locksmiths are the experts here.

#### **Q.** Why do you believe many locksmiths have been slow to get into EAC?

**A.** I sense that some believe it's too complicated, but often they haven't even given it a chance. Or maybe they've tested the waters, but the products they tried to install were too complicated — for example, they involved routing wires through the door, which is not necessary — so they gave up. Locksmiths must recognize that as EAC grows, opportunities for strictly mechanical applications will decrease. Some are just hoping to hang on to what they can get in a shrinking product category.

Unfortunately, there will be fewer opportunities for the services they provide. It will be similar to other professions that were phased out by advances in technology.

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## **Q**. What are some exciting new technologies in EAC that locksmiths should know about?

**A.** The really great news is that it has never been easier to make the transition to electronic access control. For instance, a restaurant wanted pushbutton access control on the back door so that when employees went outside for a smoke break or to take out trash, the door could remain closed and locked without each employee needing a mechanical key to get back in. The owner did not want to have to run wires to the door or use batteries. They installed Kaba's E-Plex 2000 with Powerstar Technology, an electronic lock that requires no wires or batteries. Up to 100 unique codes can be installed in the lock at any given time, and each time a code is entered, it is recorded in the lock memory.



## **4 WORDS THAT** HAVE KEPT US IN **BUSINESS FOR 100 YEARS:**

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