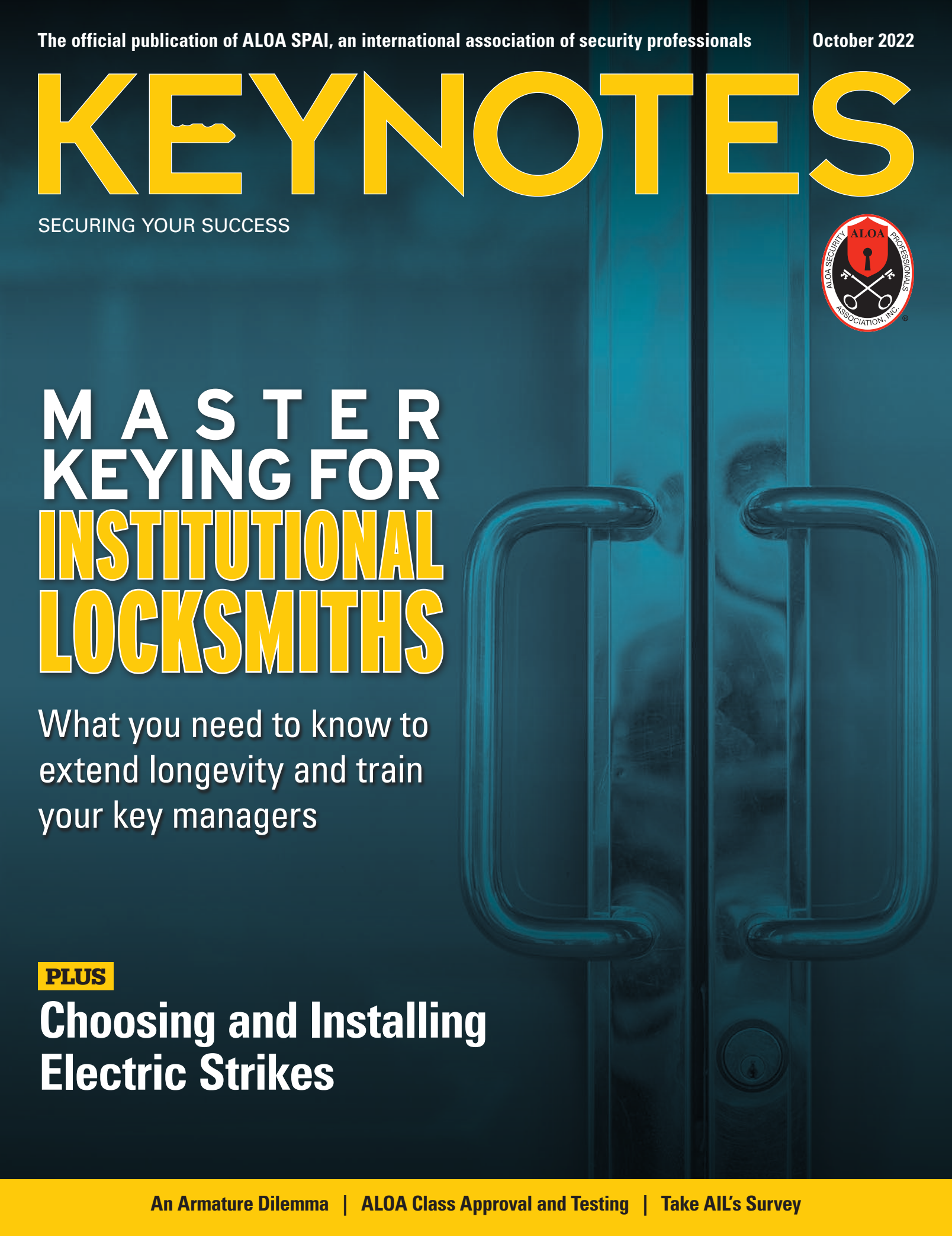
The official publication of ALOA SPAI, an international association of security professionals October 2022

# KEYNOTES

SECURING YOUR SUCCESS

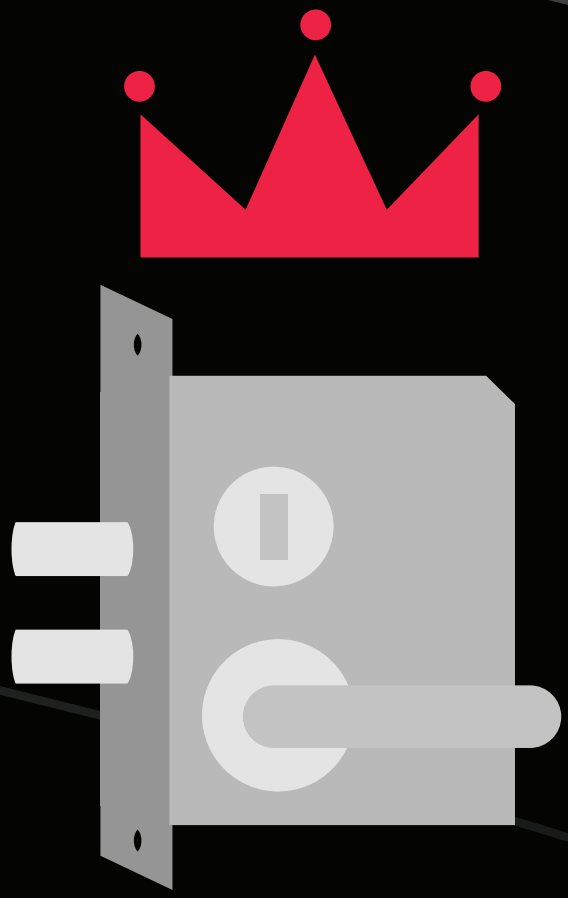


# MASTER KEYING FOR INSTITUTIONAL LOCKSMITHS

What you need to know to extend longevity and train your key managers

**PLUS**

## Choosing and Installing Electric Strikes



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# KEYNOTES

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**Mission Statement:** The mission of the ALOA Security Professionals Association, Inc., as dedicated members of the security industry, is to ensure professional excellence and ethics; create a public demand for professional locksmith services; represent and speak for the locksmith industry; and expand the exchange of trade information and knowledge with other security-related organizations to preserve and enhance the security industry.

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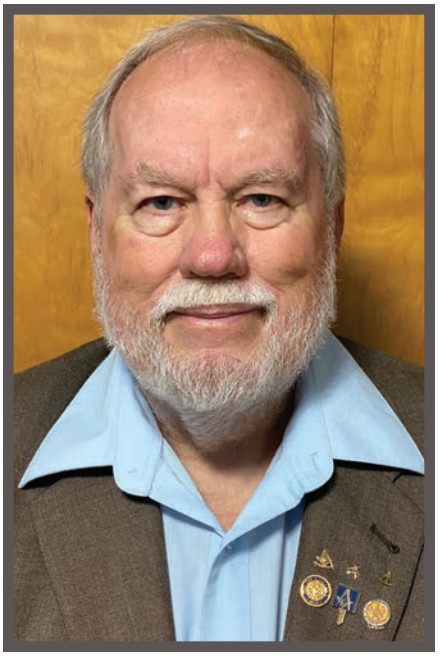
# Join the AIL Division



Here it is, October again. It seems like just yesterday that I was running for ALOA president. I really have enjoyed meeting the many members that I had not met before. I sincerely hope that all of us have made a difference in someone's life this past year. Reach out to one of the newer (and/or younger) members and offer to help them. By passing on our knowledge, we can help to pass on the art of locksmithing.

This issue of *Keynotes* is all about the institutional locksmith. You do not have to be employed by an institution to belong to the AIL division. Do you do work for any government agencies or schools? Then you would qualify. If you are already an ALOA member, there is a small add-on fee to belong to the AIL. Why not join? If you have any questions about becoming a member, reach out to membership@aloa.org.

## Upcoming Events

October 22-23 is the Yankee convention. If you have never been, you are missing a lot. It is like a miniature ALOA Convention. Also, put December 13 down as the 30th anniversary of the Fox Valley Chapter of ALOA. They're having a celebration, and all are welcome to attend.

These are good places to come to get educated and have a good time with fellow locksmiths, and there are more events happening all around regionally. I hope to see you all at some of them. For those who can't make those events, ALOA Education has some upcoming training sessions both in person and in webinar form — classes on safe deposit locks, automotive and ALOA Fire Door Inspector training. Take a look at the calendar online or reach out to education@aloa.org to find out more.

Remember to save the date for the 2023 SAFETECH Convention: April 17-22 in Reno, NV. It sounds like it's a long time until it happens, but the next few months will go fast. We'll have class information by the beginning of January, but go ahead and plan to attend now. There are always some beginner classes, so it's a great time to dip your toes into this part of the industry and learn something new.

Bill Mandlebaum, CML
President
ALOA Security Professionals Association, Inc.
president@aloa.org

**"These are good places to come to get educated and have a good time with fellow locksmiths, and there are more events happening all around regionally."**

# It's Renewal Time

It's hard to believe we nearly have another year behind us. With the worst of the pandemic hopefully over, we are looking forward to everything improving from here — both as individuals and as an association collectively.

ALOA SPAI has successfully weathered the challenges of this past year, just as many of you have: inflation, uncertainty, employees enduring COVID-19 and more. But we have had just as many positives as we've had challenges. We sold our headquarters building, resulting in a net profit that puts us in a good financial position for the future. We were able to hold a very successful ALOA Convention & Security Expo in Las Vegas, and we had a great SAFETECH Convention in Lexington as well. We are poised for even greater recovery in 2023.

But we are in the position we are now mostly due to you, our members. You have stayed with us through these trying years, recognizing the benefits of your membership. Thank you so much for your support.

## Your ALOA SPAI Benefits

As we get toward the end of the year, this is a good time to remind you of the benefits that make your membership so valuable. In the next weeks, you'll be receiving your dues renewal packet, which will include a sheet listing some of your benefits. I'd like to highlight a few of those.

A great benefit for all our members is your free listing in the FindALocksmith.com website. This site provides you with direct referrals when consumers and businesses search there for local security services. This service gives you the opportunity to potentially earn back your membership dues entirely! We have improved this site over the years, and we hope to continue doing so in the future so we can add even more value for members.

Every month, you get *Keynotes* magazine plus weekly emails from ALOA with industry news so you stay informed. You also have access to continuing education through webinars and in-person classes at conventions and more — and ALOA members receive a discount! You can earn back your dues money through taking classes alone. Need some technical books? You also get discounts in the ALOA Bookstore as well.

If you weren't aware, we added access to health insurance plans a few years ago. Be sure to explore the options that Lighthouse Insurance Group has for ALOA members and their employees; perhaps it's a benefit you can add for your staff. They also have vision, dental, life and other plans available, so it's worth your time to investigate it.

Some of the other benefits you might need a reminder about are your free $15,000 industry bonding, free classified ads in *Keynotes*, online Job Center access and government advocacy. Most members aren't aware of the behind-the-scenes government affairs work that we do to keep informed of state and local laws affecting the industry — and the work we do to keep those legislators informed with accurate information.

## Share Your Thoughts

We always try to add new benefits when we can, so feel free to send along ideas we can consider for the future. Thank you to everyone who provided feedback at the Membership Meeting at the convention. Be assured that we seriously consider what our members share with us, and we are investigating ways to improve our association and its communications.

If you have any questions about benefits, please contact us at membership@aloa.org. Be on the lookout for your ALOA SPAI membership renewal notices, and be sure to renew before the end of the year so you don't have a lapse in benefits. Again, thank you so much for your continued support of ALOA. Here's to 2023 being our best year yet.

Mary A. May

Mary A. May
Executive Director
mary@aloa.org

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## Bullseye Installation Jig

Framon is proud to introduce our latest product, the Bullseye Installation Jig. The new installation jig will assist installers with drilling wood or metal doors, both 2-3/8" and 2-3/4" backset. The tool is completely self-contained besides a 3/32" allen wrench to change bore sizes.

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# Framon Introduces New Jig

Framon has released its new Bullseye Installation Jig, which assists installers with drilling wood or metal doors. It is completely self-contained besides a 3/32" Allen wrench to change bore sizes. It features 1½" or 2⅛" cross bore and 2⅜" or 2¾" backset, with built-in tabs to change from one to the other.

It also has ⅛" pilot holes at the 12 and 6 o'clock positions for levers using 2¾" spacing for through-bolts. The jig works with door thicknesses from 1¼" to 2¾" and has optional interconnecting straps to set up proper spacing for a second Bullseye for interconnected locks.


# New Car Opening Set From Access Tools

Access Tools has created the Master Technician Car Opening Set that is designed to take up half the space of a traditional set of lockout tools. The nine-piece kit includes the most important tools needed to quickly open locked-out vehicles without damage, including the Glassman Wedge, the One Hand Jack tool, Super Air Wedge, Button Master and Snap-N-Lock Long Reach. The Quick Long Reach Manual, Quick Car Opening DVD, an Access Smart Light 2 for low-light openings and a carrying case are part of the kit as well.

# Lucky Line Unveils New Products

Lucky Line Products has released two new Key Shapes. The Butterfly key (item #B147) and the Rainbow key (item #B148) are available in retail cards (packaged five per box) or on a compact counter display while supplies last. The display includes 10 of each design — five Kwikset and five Schlage — for 20 keys total.

All Key Shapes designs are enamel coated and printed in full color directly on both sides of brass key blanks and are manufactured and inspected to comply with strictest tolerance using ISO 9001 certified processes.

The company has also introduced the Doggie Doo Key Hider. Made from weather-resistant material with a textured surface, it resembles real doggie doo and has an inner cavity measuring 1¼" x 3" x ⅞", large enough to hide multiple keys.

It's sold one per clamshell and is available in packs of three and in a 10-piece display box.

Lucky Line Products has released two new Key Shapes and a key hider.

## IN MEMORIAM

**Ronald W. Weaver, RL,** has passed. He was the owner of Accredited Lock Supply in New Jersey and had been a member from 1967 to 2019.

# NEW APPLICANTS

## ALABAMA

Gadsden

- **Josiah Hickman**
  AACE Glass, Lock & Key Inc.

## CALIFORNIA

San Diego

- **Timothy N. Odom**
  Columbia Physical Security

## COLORADO

Littleton

- **Charles D. Carmichael**

## FLORIDA

Bonifay

- **Karl Forster**
  Wood-N-Key

## GEORGIA

Covington

- **Zachary Swanner**
  Precision Locksmith of Georgia LLC
  *Sponsor: James A. Barthelemy, CRL*

## ILLINOIS

Chicago

- **Hieu C. Nguyen**
  *Sponsor: Colin C. L. Fong, CPL*

Hoffman Estates

- **Michael J. Fallon Jr.**
  Fallon Security

Wood Dale

- **Cristopher Arias**

## LOUISIANA

Covington

- **Christopher M. Richardson Sr.**

## MAINE

Morrill

- **Randy J. Markham**
  Assured Lock and Key Service
  *Sponsor: James L. Pappas, RL*

## MINNESOTA

Wyoming

- **James D. Elwood**
  Blaine Lock and Safe

## MISSOURI

Kansas City

- **Robert L. Theobald, ARL**
  Bankers Security Inc.
  *Sponsor: David Aungst*

Saint Louis

- **Terrance T. Felty**
  A-Complete Lock and Key Service

## MONTANA

Billings

- **Don T. Unruh**
  Billings Unlocked LLC
  *Sponsor: Tom Foxwell Sr., RL, CFDI*

## NEVADA

Las Vegas

- **Dan Ito**
  Legacy Lock and Key
  *Sponsor: Joseph R. Esposito, CRL, CAL*

Minden

- **James J. Martinez, CRL**
  Aramark

## NEW MEXICO

Los Lunas

- **Daniel F. Baca**
  The Lock Shop

## NEW YORK

Brooklyn

- **Lipaz Arrous**

Rockville Centre

- **Douglas A. Frey**
  *Sponsor: Steven G. Frey, RL*

## NORTH DAKOTA

Fargo

- **Anthony O. McCoy**
  Curt's Lock & Key
  *Sponsor: Todd K. Ladwig, CML, CAL, CPS*

## OHIO

Maple Heights

- **Jeff D. Moss**
  Southgate Lock & Security
  *Sponsor: Tyler J. Thomas, CRL, CJIL, CMKA*

## OREGON

Bend

- **Paul D. Donnell, CRL**
  Bend Lock & Safe Inc.
- **Ryan Neil Donnell**
  Bend Lock & Safe Inc.
  *Sponsor: Bryan D. Donnell, RL*

## TENNESSEE

Atoka

- **John P. Oswalt**

## TEXAS

Abilene

- **Austin Garrett Coates**
  Locked Out LLC

San Antonio

- **Mohammad Salah**

## VERMONT

Saint Albans

- **Aaron Sanders**
  Viatris

## WASHINGTON

Burlington

- **Daryl D. Keith**
  D's Keys

Centralia

- **Shawntrice Lynn Estrada**
  ABC Locksmith Services

Pullman

- **Lance Mitchell**
  Washington State University

### We Need Your Help

**Attention, ALOA Members:** Help us eliminate the industry scammer problem by screening these applicants, who are scheduled for clearance as ALOA members, to ensure they meet the standards of ALOA's Code of Ethics. Protests, if any, must be made within 30 days of this *Keynotes* issue date, addressed to the ALOA membership department, signed and submitted via e-mail to membership@aloa.org or via fax to 469-543-5241. For questions, contact Kevin Wesley, membership manager, at Kevin@aloa.org or (214) 819-9733, ext. 219.

# CALENDAR

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

## OCTOBER

**Oct. 7-8**
**Auto Essentials/Intermediate Domestic Auto**
In-person, at ALOA Training Center, Dallas, TX
Instructor: Tony Cagle
Questions? education@aloa.org | or (469) 453-5220
www.aloa.org

**Oct. 17-22**
**6-Day Basic Fundamentals of Locksmithing**
In-person, at ALOA Training Center, Dallas, TX
Begins Monday, October 17 @ 7:30 a.m. CST – 4:30 p.m. CST
Saturday, October 22 @ 7:30 a.m. CST – 12 Noon CST
Questions? education@aloa.org or (469) 453-5220
www.aloa.org

**Oct. 19-23**
**2022 Yankee Security Convention**
MassMutual Center, Springfield, MA
www.yankeesecurity.org

**Oct. 27-29**
**Texas Locksmith Association Convention**
Courtyard Marriott, Pflugerville, TX
www.texaslocksmithsassociation.org/convention

## NOVEMBER

**Nov. 5-6**
**Foreign Auto Locksmithing**
In-person, at ALOA Training Center, Dallas, TX
Instructors: Rafael Marte and Jason Jaudon
Questions? education@aloa.org or (469) 453-5220
www.aloa.org

**Nov. 11-13**
**Safe Sessions**
In-person, at ALOA Training Center, Dallas, TX
Instructor: Joe Reustle
Questions? education@aloa.org or (469) 453-5220

**Nov. 15-16**
**ALOA Fire Door Inspector Certification Webinar**
Instructor: Tom Foxwell, RL, CFDI
4-7 p.m. Central
Questions? education@aloa.org or (469) 453-5220

**Nov. 16-18**
**Safe Deposit Series**
In-person, at ALOA Training Center, Dallas, TX
Instructor: Gene Gyure, CRL, CAI, GSAI-T
8-5 p.m.
Questions? education@aloa.org or (469) 453-5220

# Adding Value to IAIL

Hello, IAIL members and the forensics community (and those aspiring to learn this unique and valuable specialty and those wishing to join an elite association of forensic locksmiths). It has been a fast month, and we have been using an updated membership list from Kevin Wesley, ALOA and IAIL membership manager, to reach out to a number of you to introduce myself and to gather new ideas for the future.

It is oft remarked that when starting a new job, you should spend the first 90 days asking the right questions and listening to the answers. The objective is to find all the ways IAIL can be relevant by adding value for its members, ALOA, the industry and our public (those needing our services). To what degree does that include things like membership growth, respected certifications (do we have the right ones?), revenue growth (for the association and/or for its members), brand professional prominence, education, remote regular meetings and updates, networking, referrals, consulting services, annual IAIL conference or other things? What should come first, and what's most important? Together, we'll figure that out and build that plan for next year and following.

Every month, I'll try to give you some useful information about what's going on and who's doing it. This month, permit me to introduce your IAIL Board of Directors:

- Clyde Roberson, president
- Tom Demont, director
- Tom Ware, director
- Dave McFarland, director
- Beta Tam, director
- Ross Squire, director

**"The objective is to find all the ways IAIL can be relevant by adding value for its members, ALOA, the industry and our public (those needing our services)."**

Please contact them, me or ALOA staff if you need help or assistance. Next month, I'll discuss either education or certification.

Don't forget upcoming events: GPLA (September 28-October 1, Philadelphia) and Yankee Security Convention (October 19-October 23, Springfield, MA).

**Clyde T. Roberson, CML, AHC, CPP, CMST, CFMST**, President, International Association of Investigative Locksmiths, iailpresident@aloa.org

## Get Published!

IAIL members: Submit your articles for the Investigative Spotlight department. Send your information to Tom Demont at thomas@assatechnicalservicesinc.com.

# Simplify key management

## SimpleK

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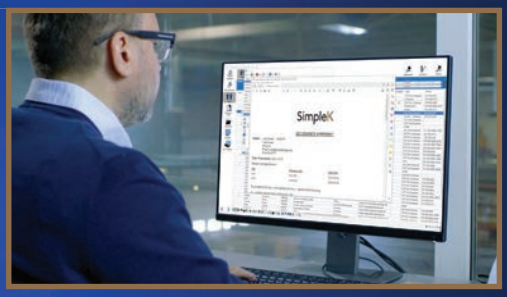


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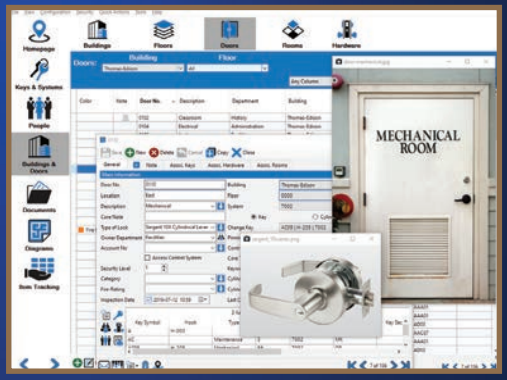



## Go to SimpleK.com for a FREE trial of the software

# Take the AIL Survey

## Help AIL with information about institution staffing levels.

**By John Truempy, ICML, CRL, CMIL, IFDI**

As I do each year, I am reporting to the membership of ALOA Institutional Locksmiths (AIL) on the state of the division. At this time, I am glad to report the division is doing very well. The division — and ALOA as a whole — had a very good convention in Las Vegas, and it was a true pleasure to talk to so many of my division members.

As I reported last time, our membership numbers have remained fairly steady. Since almost all our members were considered essential workers through the pandemic, AIL members were less affected than some other sectors of the industry, and that trend is still holding true.

Even though ALOA and all its divisions were on limited budgets, our division was still able to continue to provide new electives for the Institutional Proficiency Registration Program (IPRP), and our Life Safety and Fire Door Inspector (LSFDI) certification continued to grow. And, thanks to AIL trustee Vernon Kelley, we were even able to run a sitting of the LSFDI test for the lowest per-student cost ever.

We expect to continue developing even more programs in the future with more IPRP electives catered to in-house locksmiths. Additional stand-alone certifications, like the LSFDI, are being considered and reviewed to determine if they would be a benefit to our members.

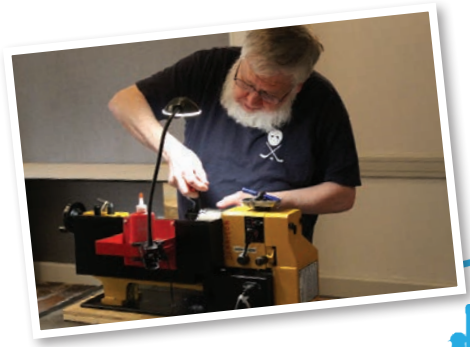
### Concerning Trends

Now, even though I am very glad to report that the division is doing very well, I have been seeing some trends in the institutional market that are concerning. More institutions have been contacting ALOA and AIL for leads for qualified workers. Rather than just refer them to our employment portal, findalocksmith.com or *Keynotes* magazine, I forward them to AIL members I know in the area. The replies I often receive are, "If I knew that someone was available, I would've hired them myself!"

Lack of qualified applicants is a nationwide problem for many facilities right now. My concern is that institutions might deal with the issue by hiring unqualified workers or not fully staffing their own lock shops. So, as we've done in the past, the division will be sending out surveys to our members. But this time — instead of focusing on how the market is segmented among facilities — we'll be focusing on what is considered proper staffing levels for facilities in specific industries. This information will help us create staffing benchmarks within each industry represented by our members. This information will only be available to AIL members and the ALOA Membership committee.

So, again, I need your help. When you get the survey from AIL, please take a few moments to complete it. I know we all get lots of surveys, but this one could help fellow AIL members — and possibly each of us — survive the new normal.

**John Truempy, ICML, CRL, CMIL, IFDI,** is employed at the University of Pennsylvania, where he's been a locksmith for more than 21 years. Prior to that, he spent a few years as a commercial locksmith and worked for the State of New Jersey at Trenton State Psychiatric Hospital. As the first president of ALOA Institutional Locksmiths (AIL), the ALOA SPAI division, he has over 15 years of association management experience. He has written many books focusing on both practical and esoteric applications for master key systems, including Advanced Master Keying Skills and Master Key System Specification, Application & Management. He also teaches both fundamental and advanced locksmith subjects.



SAFETECH 2023 RENOVATE YOUR CAREER

# Coming Up: SAFETECH 2023 in Reno

SAFETECH 2023 registration will be here before you know it.

It may not seem like it, but SAFETECH registration will be here before you know it! Join us at the Atlantis Casino Resort April 17–22, 2023 in Reno, NV, where you can "RENOvate" your career. Add to your technical skills by taking some safe classes so you can enter this lucrative part of the industry. Learn picking and drilling techniques, and get all the information you need to become acquainted with safe locks. We'll have a series on safe deposit locks as well.

The venue is a new one for SAFETECH. It's on the south side away from the main strip, but with easy access to the highway. There are a lot of entertainment and dining options on-site, so you won't even need to leave the property for a night out!

## Catch the Vibe at ALOA 2023

There will be some hot times and cool vibes at the 2023 ALOA Convention & Security at the Hilton Orlando. This is the venue we had in 2016, and it was a great one! Everything was conveniently located under one roof, and there's a great pool complex. All the Orlando attractions are within easy driving distance as well, so bring the family for a few extra days before or after the convention.

## Sponsorship and Exhibiting Opportunities

In addition to the hands-on classes, networking opportunities and attendees' chance to see all the new products at the Security Expo, there are a lot of opportunities for companies


as well! Manufacturers, distributors and service providers can connect one-on-one with customers, showcase products and get their names out in front of attendees. In addition to exhibiting at the Security Expo, there are so many options to enhance your convention attendance! Get in front of decision-makers by sponsoring an event, such as the Kick-Off Party, class lunches, the Women in Locksmithing reception or class refreshment breaks. Add extra visibility with sponsored kick panels at registration, Expo aisle signs and more.

Further your reach by sponsoring items like lanyards, tote bags, water bottles, water stations and more. There are also opportunities for advertising in the registration brochure and the on-site program that all attendees receive.

For more information and custom packages, contact Kelly Parker at kelly@aloa.org or (912) 713-9680. If you have general convention questions, email conventions@aloa.org.

Catch some new customers along with catching a vibe at ALOA 2023. We pity the fool who doesn't attend — and exhibit!



# Learn the Lingo

EVERY INDUSTRY HAS ITS LINGO, and automotive key and immobilizer programming offers a rich lexicon of acronyms and computer-ese all its own.

## Vehicle Anti-theft System Acronyms

- PATS — Passive anti-theft system. Ford Motors system theft deterrent transponder to immobilizer system, trademarked SecuriLock. PATS I, PATS II, E-PATS.
- VATS — Vehicle anti-theft system. GM's current system is referred to as vehicle theft deterrent (VDT) also known as Passlock. Additional GM theft deterrent systems include Passkey, Passkey II and Passkey III.
- CAS — Car access system. BMW theft deterrent system. (CAS, CAS1, CAS2, CAS3, CAS4, CAS4+)
- NATS — Nissan anti-theft system.
- SKIM —Smart key immobilizer module. This is a Chrysler/Dodge theft deterrent system.

## Common Key/Immobilizer Programming Terms

- Key cloning — Copies the code from key transponder to a blank key transponder.
- Read PIN/CS (all keys lost) — Via a key programing tool, retrieve the code from the vehicle immobilizer or ECU and program the code to new blank transponder key (device).
- Remote learning — Adding/removing keys to vehicle ECU.
- Key read/write — via a key programming tool, transducer information can be read from or written to key or device.

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# Ooops!

## **Dennis Cassidy** gets things upside-down at an AMSEC servicing.

I received a call from AMSEC to go open and service a safe (CSC Series) that had never been opened. The safe would not open with the current combination (C123456#), so AMSEC sent a new keypad, an ESL10.

I called the homeowner and set up a date and time to open the safe (see *Figure 1*). I arrived at the location and tried the combination with same results: it beeped but would not open. I changed the batteries, but still had no luck. I hooked up the Phoenix with the same results.

### Any Surprises?

AMSEC had sent me a new ESL10 lock and told me to drill the safe open and install the new lock. AMSEC also sent me the drill points and opening instructions. I asked the tech person if the safe had any surprises, such as hardplate in


**Figure 1.** The new AMSEC CSC safe had never been opened.

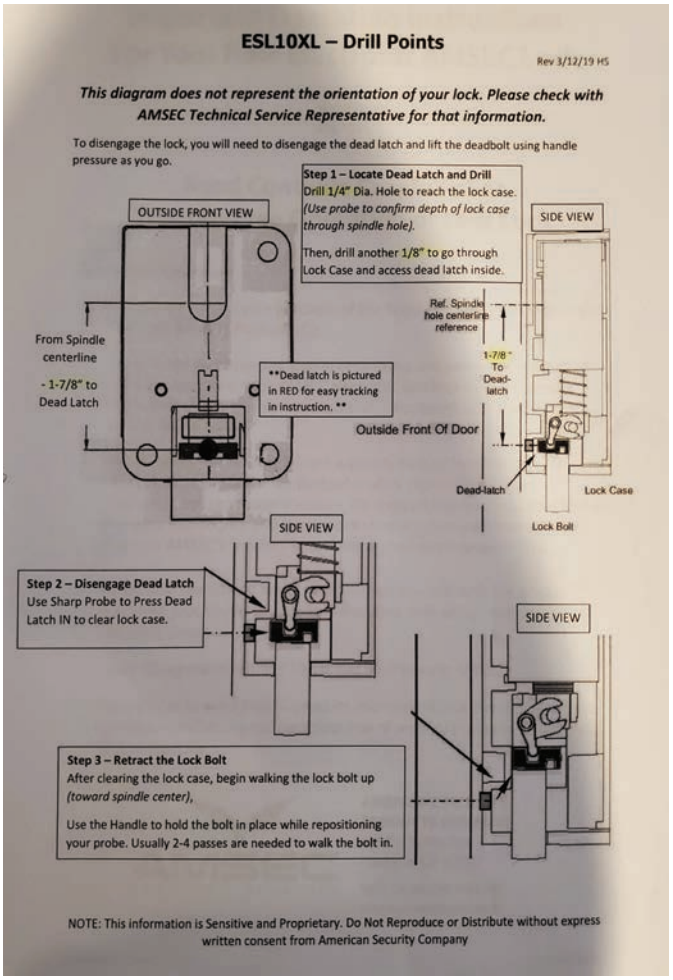



**Figure 2.** Drilling and opening instructions were provided.

**"The homeowner handed me a notice that came with the safe that said, 'Glass inside.'"**

the form of glass, and they said there was no glass (*Figure 2*).

I started to set up the Helix. I told my wife it was a VU and asked for the drilling instructions from AMSEC and followed them. I marked the drill point, 17/8 TB and installed the Helix, attached the Bullet and started to drill.

The homeowner handed me a notice that came with the safe that said, "Glass inside" and to be sure to pull the pin so the relocker would be activated (*Figure 3*). I said a few expletives and called AMSEC. The tech person said I would have to drill for the relocker and pin it and then drill for the lock. I asked why I would drill for the relocker when the safe had not been opened before. She put me on hold and came back to say AMSEC would send out a new safe.

## One Letter Makes a Difference

AMSEC said to send the safe back when the new one arrived but changed their mind and asked me to pick it up. I loaded the safe into the back of my van along with the ESL10 lock and keypad and drove home.

I unloaded the safe and put it into my shop, and that's where I noticed (like many of you may have with the pictures) that I had started to drill in the wrong spot (*Figure 3*). It was VD, not VU. I told my wife VU and measured per the instructions but neglected to pay attention to lock orientation. Oops!

So I regrouped and measured up 1⅞" and attached the Helix again (*Figures 4* and *5*). I drilled down to the glass and put on a new Mister Twister, knowing the glass would break. I went slow and steady through the glass and ⅛" into the lock body then stopped. I put an icepick into the lock and pushed the dead latch in, then walked the lock bolt down to open the safe.

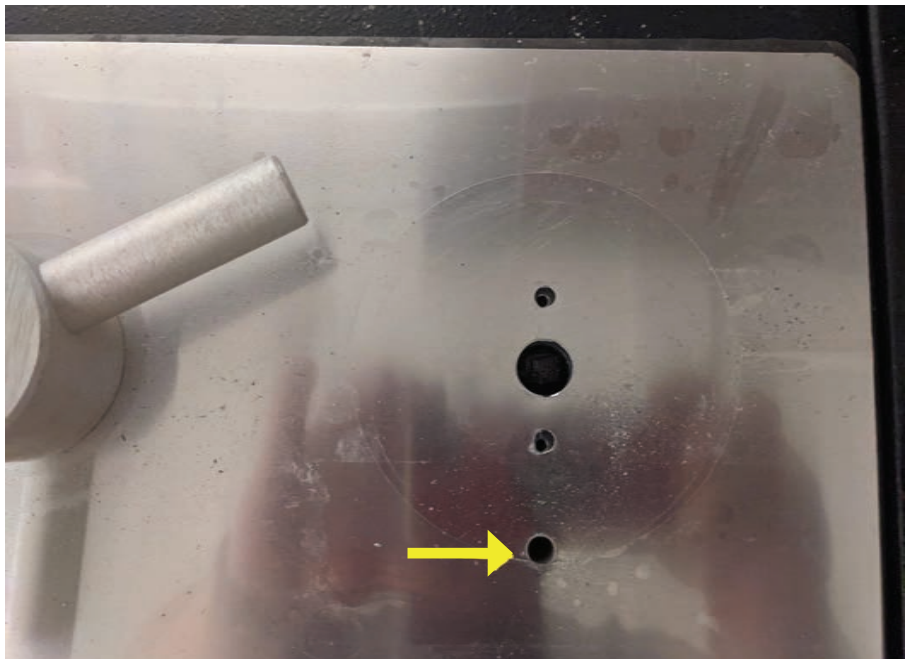


**Figure 3.** The author drilled using the drill point of 1⅞" down. Ooops!


**Figure 4.** The correct drill point was actually 1⅞" up.

**Figure 5.** The Helix is attached for drilling.

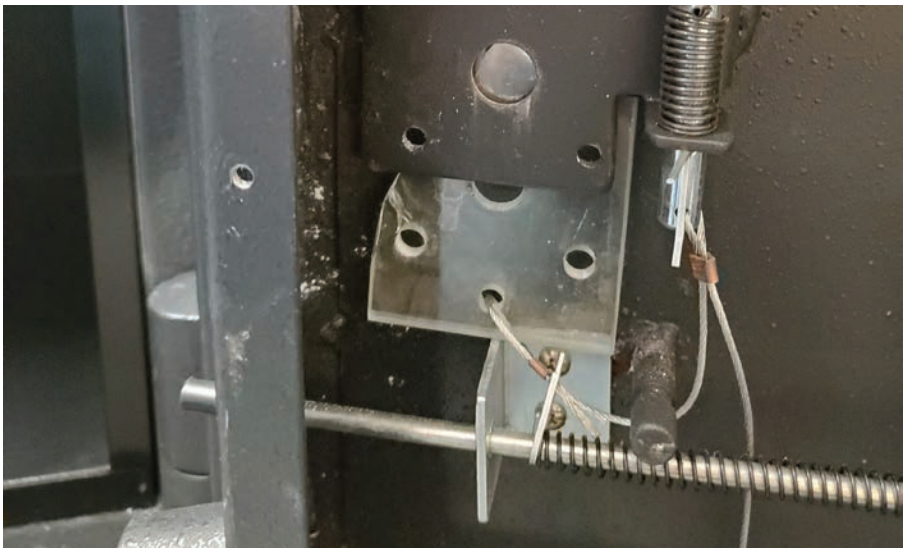
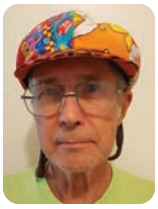


**Figure 6.** The glass is unbroken after using Mister Twister.

Taking the back cover off the safe door, I noticed the glass didn't break (*Figure 6*). I then removed the lock and repaired the safe with fire retardant, ball bearings and Carbinex. I left the lock off and will give the new owner their choice of a new mechanical or digital lock (*Figures 7* and *8*).



**Dennis Cassidy**, is the owner of Green Mountain Safe in Middlebury, Vermont. He can be reached at 802-989-3599 or greenmtnsafe@gmail.com. Has been a member of SAVTA since 2009.

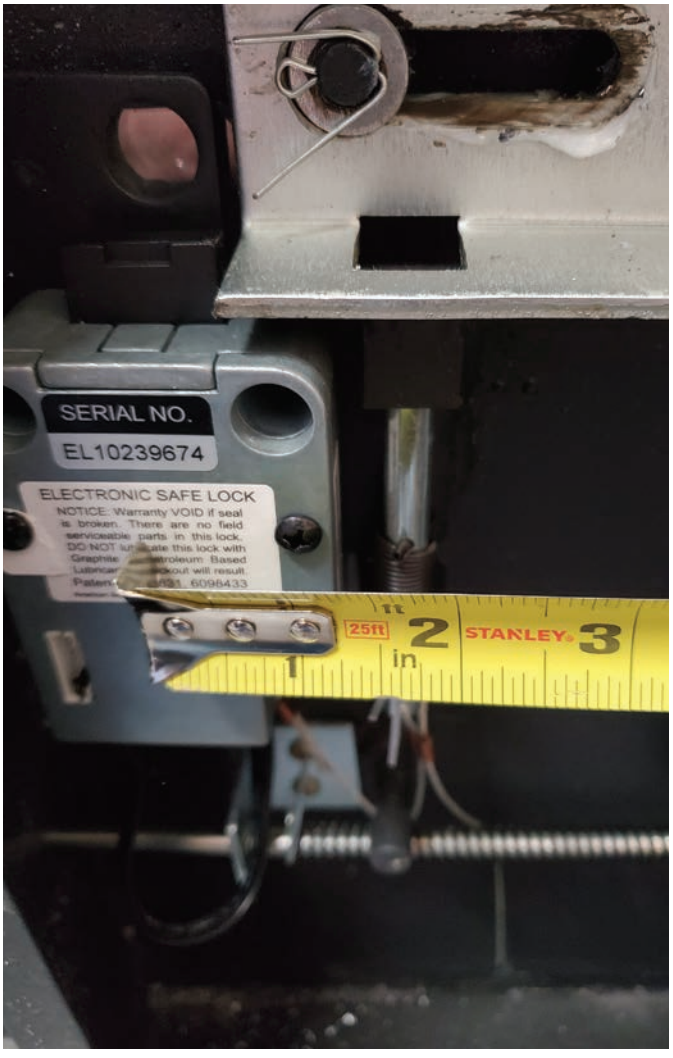



**Figure 7.** The lock and relocker are shown with measurements.


**Figure 8.** This is a better photo of the inside of the safe with the lock and relocker attached and still pinned.

# MASTER KEYING IN INSTITUTIONS AND COMMERCIAL SETTINGS

**Ralph Forrest-Ball, CML**, and **Lloyd Seliber, CML**,
explain some of the similarities and differences in master keying in these two environments.

Locksmiths master key in several environments. The most common are probably commercial shops, institutional shops, contract hardware houses and lock factories. In this article, we will consider the institutional and commercial lock shops and explore their similarities and differences.

If you walk into either type of shop, you'll find many common features: There will be an office area where records are kept and generated, plus a work area where keys are marked and cut, and cylinders are pinned. Most of us keep the key cutting a fair distance away from the cylinder pinning; key cutting produces metal shavings, and we don't want those finding their way into the cylinders. When you look closer at the two types of shop, you will begin to notice differences.

Let's start in the bookkeeping area. On the commercial side, you'll find tax records, sales receipts and old service call tickets. On the institutional side, most of that is handled in a campuswide computer system; institutional locksmiths don't keep a lot of paper on these items. You will find plenty of paper records, but they're more likely to be records of keys issued — and these may go back decades.

When you look at the bitting lists, you will find differences as well. Commercial locksmiths tend to work with multiple smaller or medium-sized master key systems that began with documents created locally. Working in the aftermarket, commercial locksmiths do not have time to wait for a factory master key system. They will build most systems themselves using their own processes or software.

Institutional locksmiths often work with larger systems created by manufacturers. Within the institutional records, you can expect to find very old factory systems, extensions of factory systems (either from the factory or locally developed) and systems developed in-house — often to service buildings the institution acquired from other organizations. For the factory systems, you can expect to see several formats as the factories modernized their processes over the years.

## Where Things Can Go Wrong

There are structural differences in the systems too. Institutional systems often span multiple large buildings. Four-plus levels of keying are common. Systems with multiple key sections are common. These are far less common in the commercial environment.

Unfortunately, when you have large, complex systems with multiple handoffs, there are a lot of places where things can go wrong. In the institutional environment, you can expect to find records of mistakes and actions taken to fix them. That's part of institutional locksmithing.

In the commercial shop, we rarely track keys to the keyholder level. Even if we were to track keyholders, it's unlikely that number of keyholders would be in the tens of thousands. In the institutional environment, that's common. An institution may have 40,000 keys in use at any given moment. Information about key issues is constantly added and never discarded. Institutional locksmiths often feel like they are swimming in key records.

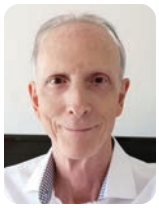
Master key systems live longer than computer software, and both environments experience legacy issues due to software and hardware upgrades. The problem is generally worse for the institutional locksmith. Many were early adopters of master keying and key control software, and commonly use programs developed by programmers (sometimes students) in their own institutions. Over time, these systems become hard to support, and the IT departments will push to discontinue them. When this happens, in addition to maintaining 40-year-old key systems, the institutional locksmiths are saddled with complex and time-consuming software changes.

Documentation in both environments may be difficult to understand, but perhaps the worst is a commercial shop that is on its second or third owner. Locksmiths of past generations kept a lot in their heads. They left behind records that were easy for them to work with, but seem cryptic and incomplete to the locksmiths who follow in their footsteps. Naturally, you don't know what they didn't write down. This is one of the bigger challenges faced by locksmiths in the field.

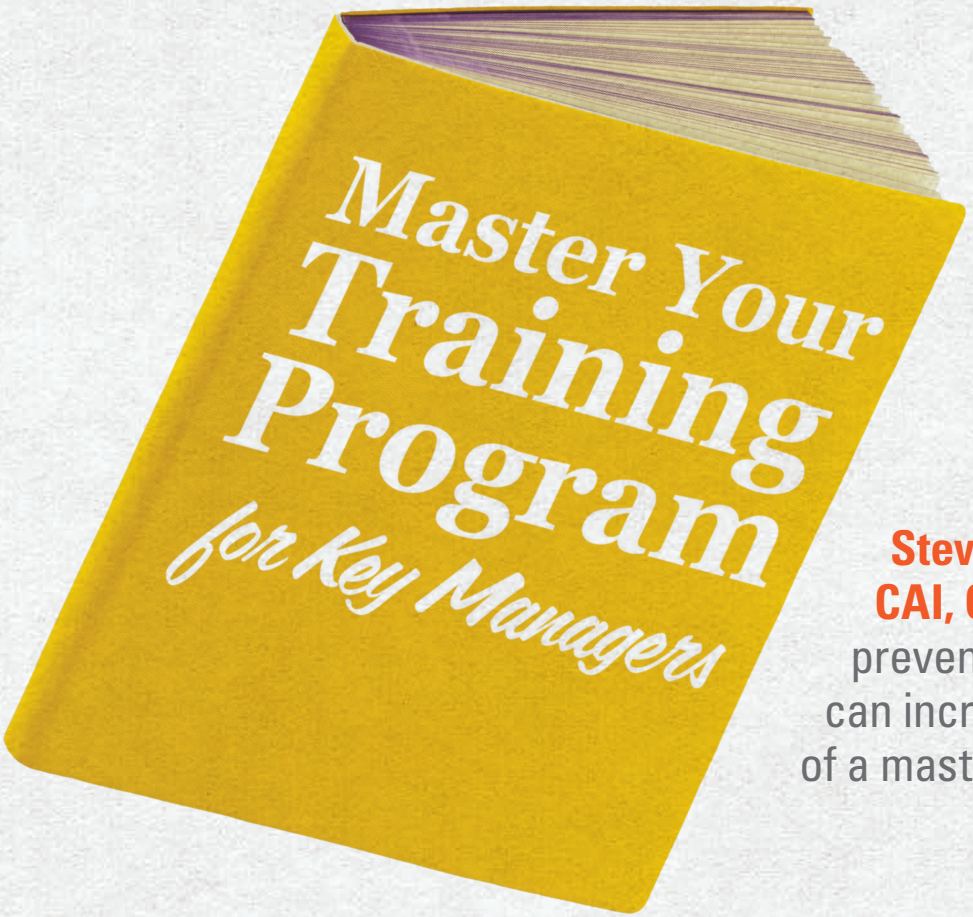
One advantage to life on the institutional side: You can generally set policy on what kind of keying you will accept and what you won't — for example, cross keying or master keying with low-cost or poorly serviced cylinders. On the commercial side, if you turn down this work, it hits you directly in the wallet. Sometimes, you can explain to the customer that the keying they want is just too risky … and other times, they will go to the competition, who will happily master key those cylinders without the slightest concern for occupant safety.

While there are differences between master keying in the commercial and institutional environments, there aren't a lot of differences between the locksmiths. Locksmiths can find themselves in either environment at any time. In the institutional environment, it's common to find people with a background in commercial locksmithing. On the flip side, it's common to go into a small-town lock shop and find someone who worked in an institution prior to relocating to their dream spot. It's good for locksmiths to keep up to date on issues in both environments, because we never know where life will put us.

**Ralph Forrest-Ball** was a math teacher for 12 years before becoming a full-time locksmith. He joined ALOA in 1997 and earned the CML credential in 2009. From 2009 to 2019, he was the owner of Emerald City Locksmith in Eugene, OR, and he was the winner of ALOA's Best Shop contest in 2011. He currently works as an instructor and an author in Corvallis, OR.



**Lloyd Seliber, CML**, has worked in the industry continuously since 1975. Seliber spent his early career as a commercial and institutional locksmith, then joined Schlage Lock Company as a master key analyst in 1988. For the next 21 years, Seliber created and maintained thousands of key systems at Schlage and later at dormakaba before starting Keying Solutions in 2008. Seliber is past president of the Door Hardware Institute Greater China Chapter and has taught master keying at ALOA since 2008.




**Steve Fryman, CRL, CAI, CISM**, explains how preventive education can increase the longevity of a master key system.

Greetings sports fans! Who doesn't like to go to live sporting events? Well, if you don't like crowds, I understand — especially with the latest version of COVID-19 looming. Live sporting events have a certain energy; there is so much to take in. Sights, sounds, concession stand food… not sure why hot dogs always taste better when you are sitting in the stands.

In addition to buying a hot dog, I will buy a program. Programs help put everything together: names of the players, their pictures and statistics. All this adds value to the total experience.

Like the program you buy at a sporting event, knowing your key managers and the departments they work for will serve you well. Knowing more about the key managers will help you coach them to make good decisions about the level keys they are approving for their keyholders. Recently, I had the opportunity to develop a new program vetting key managers. I call it "Key Manager 101." It has been developed as an online course. The class instructs key managers about their requirements and responsibilities. In the first part of this article, I would like to share some of the details of the content that makes up the curriculum for the class.

## Introduction to Key Management 101

A. Understanding basic key hierarchy
B. How key control relates to your department's security
C. Manage the keys, manage the access
D. Your objective as key manager
E. Secure keys in your possession
F. Filling out the facilities web form
G. What the keyholder should do with the key when separating from the university
H. What happens to the keys when they are returned

Training key managers helps you add longevity to the master system. This promotes system wellness using education as a systemic prevention as part of the key control. Let's do a deep dive into the body of the training.

## Learning Objective

Upon completion of this class, the key manager will have a greater understanding of what takes place in the life of a key, from the original request and issuance to its return for destruction.

## Understanding Basic Key Hierarchy

Key hierarchy is very similar to a corporate flow chart with the president on the top and vice presidents beneath the president. In a key hierarchy, the grand master is on the top, and the masters are below the grand master. Sub masters are beneath the masters, which would be like assistant vice presidents. The individual keys are like the employees under the vice presidents.

A series of letters and numbers make up a code that explains the level of access they have. Following is an example.

*C28A-25:* When reading this code, the numbers and letters explain where it is in the hierarchy. All the levels of access are accomplished by a series of small pins with springs loaded into the chambers of the lock cylinder. Why is this important to you as a key manager? Because it gives you information about the key you are approving. Now let's break the code example down.

- *In C28B-25, the grand master is "C."* This is not issuable to departmental employees.
- *C28 is the building master.* Very few employees would carry these keys. Special permissions are needed to issue this high-level key.
- *C28B is a departmental sub master.* This key could be a floor master also. With discretion, this key can be issued by the key manager.
- *So, the C28B-25 is an individual key* that is under a departmental sub master, building master and great grand master, and would be an example of the most common kind of key issued.

## How Does Key Control Relate to Your Department's Security?

Every department has different security needs. Primary security concerns pertain to the following items: personnel records, medical records, cash, tests, office supplies and drugs, just to name a few. All the items mentioned above should not be under any of the masters, for obvious reasons. These are rooms that should have limited high-level access — only with a key few would carry, under a special system. Police always have access to everything, even to these high-security keyed rooms. They have access under a mandate established by finance and administration.

## Manage the Keys, Manage the Access

This remains true only when the systems we are issuing keys for have longevity and vitality. An old system may have had a lot of keys issued and not recovered, or lost or stolen keys were never mitigated with needed rekeying.

**"It's important to recognize what area or areas of your department the requester will need access to."**

It is a best practice to rekey lock cylinders when keys are lost or stolen. Your department can pay to have locks rekeyed. This will assure you that no one has access except current keyholders. The transfer of keys is not a good practice, especially regarding record keeping. This is especially important if there are items of great value locked in these areas. Most locations on campus are accessed by a combination of key and card access. Keys that are part of the electronic card access system are not issuable. This ensures the audit trail is maintained. Cards are the only form of access to these areas. Only first responders have key access to these electronically controlled areas. As key manager, you are probably overseeing electronic access also. Keeping this in mind, we could say that you are responsible for the physical security of your department, which is no small task or responsibility.

## Your Objective as Key Manager

When you receive a request for a key, confirm information given to you by the key requester. Verify the requester's level of access. It's important to recognize what area or areas of your department the requester will need access to. High-level keys are often looked at as part of the persona or esteem of the key requester. These keys are seldomly issued. I am not referring to the dean, chair or director of your department who would be most likely to request this level of key.

Please also keep in mind that the key is more than a way to access space; it's property of the institution. Help cut down on the confusion during the key issuance process, and please approve or deny the requests expeditiously. We receive calls all day with queries about when the key will be ready when the key had not even been approved yet.

Keys that are in your possession need to be locked in a secured file cabinet. Keep records of keys issued to employees in your department. Excel spreadsheets make a great way of keeping track of your keyholders. This is helpful when your annual key audit is due. During a key audit, you will be required to see each of the keys issued to your keyholders. As employees separate from the institution, it's the responsibility of the keyholder to

return the key to the key shop. The keyholders will need to give you a receipt verifying the return of the key or keys issued to them. Keys are property of the institution.

## Secure Keys in Your Possession

It is unfortunate, but a lot of security issues have occurred due to keys being left in unsecured desks in reception areas. One college had left its departmental master at the reception desk, and the key was stolen. Two large buildings were rekeyed at the price of $43,000. Keyholders are not to loan keys and are responsible for keeping control of the keys issued to them.

## Filling Out the Facilities Web Form

Our current system for requesting and issuing keys has been in place for the last 12 years and is due for a major overhaul. The three-email system we have is very confusing and will be evaluated. My hope is to provide a more streamlined approach where all parties know when the key will be issued.

No matter what system is in use, only the authorized key manager can approve keys to be issued. The key manager authorization form signed by the dean or chair of the department is the only thing needed for the key manager to be authorized to issue keys for the department. Filing cabinet keys and non-restricted keys do not apply to the key issuance proses — only a work order is necessary for non-restricted key duplication, such as file cabinets. With the current and future key request form, only one key per key request will be permitted. Codes can be used to request keys, but it's the key manager's responsibility to ensure the correctness of the code.

## When Keyholders Separate From the Institution

It is the responsibility of the keyholder to return the key issued and obtain a receipt for the key manager. If the keyholder is not available, the key manager can return the key. The key can also be returned via USPS or interdepartmental mail.

## Returned Keys

Returned keys are removed from the system and are destroyed. The keyholders will receive a receipt for their records. When the key is returned, an email will be automatically generated from the key control software notifying you of the return.

## Management of the Class and Test

When the class is completed, there is a 10-question multiple-choice test. Software called Articulate Storyline 360 was used to create the online course with testing. The class can be stored on a learning management system (LMS), which will keep track of who took the test and is eligible to be a key manager. At the campus where I work, we have classes and testing to receive travel cards and purchase cards. So, why shouldn't key managers be vetted too? They are the gatekeepers for their departments. There are millions of dollars in assets protected behind locked doors. It is impossible for us to know who should be receiving what level of key. With the volume of buildings we manage, key managers are a necessity.

In addition to training your key managers, there are two more things I would like to mention that will help you add longevity to your master key system: serializing keys and electronic key management systems.

## Serializing Keys

Keeping track of issued keys can be an arduous job. When you have an enterprise master system that is spread over 400-plus buildings, it's a lot of heavy lifting at times. That's why serializing keys is helpful. We can associate the uniquely marked serialized key with the keyholder's records. The Numberall serializing machine generates a new number every time the machine stamps a key. This machine is a battleship and gets a real workout daily. Serializing keys is a fundamental need when it comes to adding life to a master system.

## Electronic Key Management Systems

This is my favorite way to provide accountability to a metal key. As soon as the newly minted key system is in place, put the keys in an electronic key management box. Every key will have an audit trail. You will know where every key is. Key users check keys out when needed.

Medeco partnered with TRAKA (both owned by ASSA ABLOY) to develop a fixture to electronically store and charge the Medeco XT electronic key. This solution resolves multiple issues: It gives accountability to the stakeholder and limits the number of keys required. The expensive keys are shared and checked out from the box.

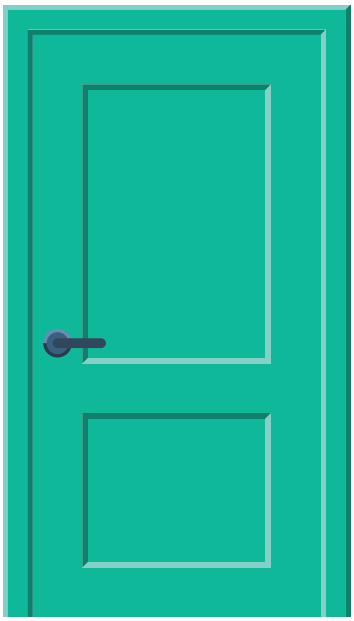
Another great feature is that the electronic XT key is charged where it's stored. I have found the electronic key management boxes especially useful with vendor/contractor key lending. The box is available 24/7, and the vendor makes arrangement prior to borrowing the key. The keys are on a blind system, with the vendor/contractor being given the location of the key prior to borrowing. There is an understanding that the key is to be returned before the end of business that same day.

If you have a walk-up window for key issuance, this is especially nice because you do not need to deal with the vendor/contractor. The box does it all. You can even have emails sent to supervisors when keys are returned past due. Before the electronic key boxes, we had a chit system, with keys hanging on a peg board. Slips of paper were signed by the vendor /contractor when keys were barrowed. That's a time-consuming process.

In this article, I have shared some ways to add longevity to your master key systems and how to possibly structure your own class for key managers. My hope is that you have the support of your administration. The key issuance policy should set expectations. There needs to be clarity in our key issuance policy, giving the administration a better opportunity to enforce penalties associated with missing keys. If the administration does not support the policies, there will be no traction. There *must* be consequences for non-returned or lost keys. After all, the key is property of the institution. When a keyholder separates from the institution/company, the key should be returned by the keyholder who it was issued to.

I hope this information was helpful to you and will spur you to improve your life's work. For more information on increasing longevity in master key systems, see my article in the June 2022 issue of *Keynotes*.

**Steve B. Fryman, CRL, CAI, CISM, AFDI,** has worked in the physical security field for more than 40 years. Now working as the key compliance manager at Florida State University, he previously served as an institutional locksmith at the University of Florida and in the private sector with his own locksmith business. He developed the first curriculum and testing for the Certified Institutional Shop Manager designation, making him the first recipient of this credential.



# STRIKING THE RIGHT APPROACH

**Rick Karas, RL, CFDI, AFDI**, explains how to choose and install electric strikes.

There are many types and brands of electric strikes. Over the years, I've installed many electric strikes, and I've had the fortune to install good ones that appear problem-free and work very well. Unfortunately, I've also had the misfortune of installing the bad ones. Whether you're an experienced locksmith in search of a new brand or a novice who's never installed one before, installing electric strikes can be very profitable and rewarding as a locksmith. This is just one example of how I went about a typical electric strike installation.

## Considerations for Selecting an Electric Strike

Here are a few things to consider:

1. Will it be used indoors or outdoors?
2. What type of lock will you be using with it? Cylindrical lockset, mortise lockset or rim-style exit device?
3. Door frame material - wood, metal, aluminum?
4. Finish - what color faceplate will be needed?
5. Does the job require any optional features? Lock bolt monitor? Door position switch?


Figure 1

Figure 2

**Figures 1 and 2.** Make sure the outside of the box clearly identifies the product and what's in the box.

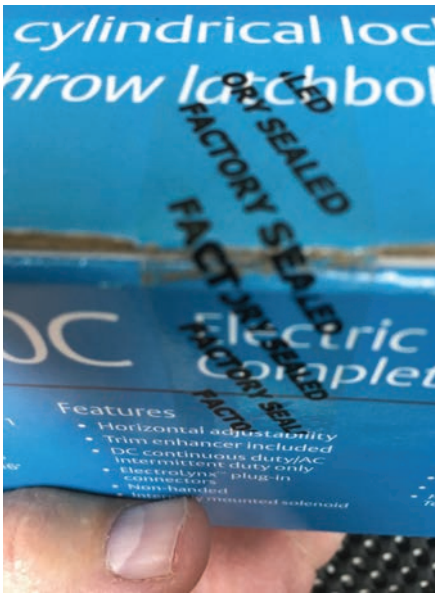



**Figure 3.** Make sure the box is factory-sealed and has not been tampered with.


**Figure 4.** If you find that the box has been previously opened, immediately ask for a replacement.

6. Faceplate type - round or square corner?
7. Faceplate size - 4⅞" x 1¼" or 9" x 1⅜"?
8. Certifications - UL or ANSI rated?
9. Does the electric strike need to be fire rated?
10. What type of voltage will be applied to the electric strike? AC or DC? 12v or 24v? POE?
11. Will the strike receive continuous voltage? Will it need to be rated for continuous duty?
12. Do you need a fail-safe or a fail-secure electric strike?
13. Are there any reasons the electric strike should not be used? Have you checked local codes? (Example: stairwell codes)

All the above items are important in choosing the correct electric strike. Making the wrong choice can lead to an electric strike that does not work correctly or a weakness at the point of the electric strike in security system. So, it's essential to do your homework and make sure that you choose the correct product for the job. Most of the reputable manufacturers will help you select the correct product. It's always a good idea to reach out to the manufacturer if you have any questions about their product. Once you have identified the above requirements, the following are a few other things to consider that you may not think about. These are simple things, but they will improve your life.

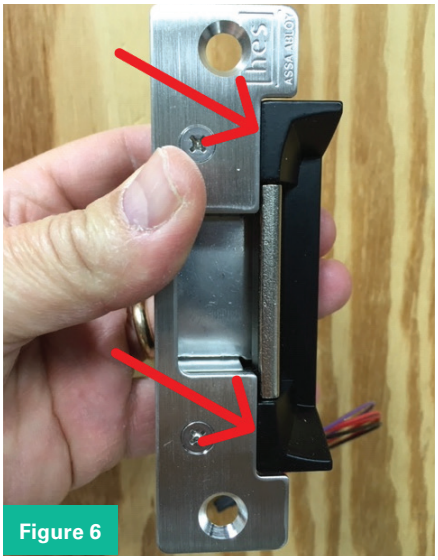
## Product Clearly Identified?

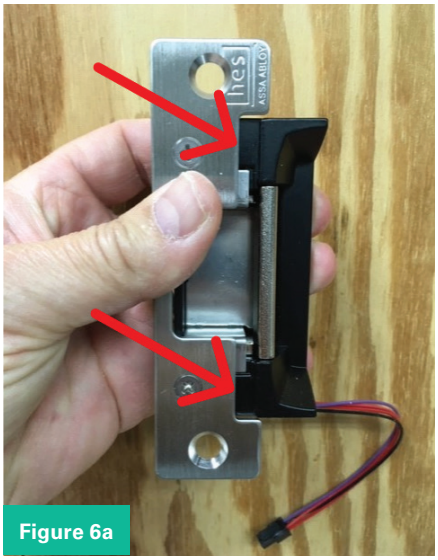
One of the basic things to consider when choosing an electric strike is the packaging. Ask yourself: Does the outside of the box clearly identify the product (see *Figure 1*)? Can you read or interpret the writing on the box, that is, the language? Are there pictures that clearly show you what is in the box (*Figure 2*)? Pictures definitely help me! Make sure that you know exactly what is in the box. No one wants surprises at the job site when opening a new product for the first time only to find out it's not what was expected.

## Factory Sealed?

You should also check to ensure the box is factory sealed and has not been tampered with. *Figure 3* shows a good example of a HES 5200C factory-sealed box. In this example, the box itself has a seal that reads "FACTORY SEALED." You really cannot make it much clearer than that, and it's a good example of the KISS ("keep it simple, stupid") acronym. This provides a simple, clear indication that the box has not previously been opened or tampered with before you receive it. If you receive a box with a seal that has been broken (*Figure 4*) or appears to have been tampered with, you should not accept it, and immediately ask for a replacement because the box may have been opened by somebody else. (*Figure 4* shows the box after I broke the seal; it did not arrive in this condition). There are a lot of unknowns that come with a box that has already been opened, such as "Has this strike already been used, and has somebody already fried it or done damage to this strike? Is this actually the correct product?" Don't take that chance. As one of my all-time favorite first ladies Nancy Reagan used to say, "Just Say No!"


**Figure 5.** The HES 5200 comes with two pigtail connectors and three crimps on B wire splice connectors.




**Figures 6 and 6a.** These images show the movement of the horizontal adjustment of HES 5200C.

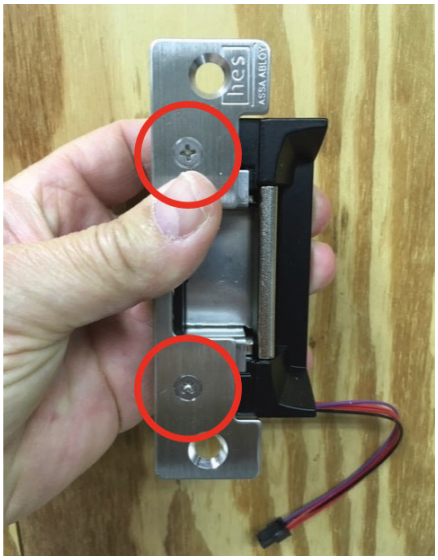


**Figure 6b.** The horizontal adjustment is done by simply turning the screws.

## Good Packaging

Good packaging is a must, especially if the electric strike will be bouncing around on your service vehicle. Also, I would recommend checking to see that the box holds the electric strike securely in place with little or no movement. This helps ensure the electric strike will not get damaged, nicked or marred — especially important if you drive a service vehicle that shakes, rattles and bounces around like mine does. Another consideration is whether the packing is small enough that it does not take up much space in your service vehicle.

## Voltage Flexibility

Another consideration in choosing an electric strike is whether it allows for any voltage flexibility. I like the flexibility of having an electric strike that will operate on either 12 or 24 VDC/VAC. This means that instead of having to carry an array of different strikes that operate on different voltages, I can just carry one strike that will handle both. I particularly like the HES 5200 Electric Strike Complete Pac and will use it as an example for the rest of this article. The HES 5200 has the flexibility to operate on different voltages. It comes with two pigtail connectors

Figure 7

Figure 8

**Figures 7 and 8.** The HES 5200C includes ANSI faceplates for both square and round corners. *Figure 8* gives a close-up view, with the square and rounded corners circled in red.

and three crimps on B wire splice connectors (*Figure 5*). One connector is for 12-VDC and the other connector is for 24-VDC. This is handy and keeps things simple. Also, they are clearly identified, so there is no chance of accidentally using the wrong wires.

## Horizontal Adjustment

A nice feature to have is the ability to adjust the electric strike horizontally. This will allow you to ensure that the deadlatch is where it should be and works properly. The latch should go into the cavity of the electric strike and not the deadlatch. Look at *Figures 6* and *6a*. They show the movement of the horizontal adjustment of HES 5200C. The horizontal adjustment is done by simply turning the screws in *Figure 6b*. Not all electric strikes can be adjusted horizontally; I would recommend choosing one that does.

## Faceplate Options

I also prefer strike plates that come with faceplate options. The HES 5200C includes ANSI (*Figure 7*) faceplates for both square and round corners. *Figure 8* gives a close-up of the faceplates, showing the square and rounded corners circled in red.

## Connectors

Something else to consider are the connectors. In *Figure 5*, I am showing the connectors that come with the HES 5200C. Not all electric strikes come with connectors, so be prepared to bring some with you.

## Safety Before Proceeding

Safety is the No. 1 priority for everyone, no exceptions. It is important to remember that you will be removing metal from a doorframe. Metal shavings have a mind of their own and seem to find their way into the most unmentionable places. Unfortunately, I know from personal experience that this means you should untuck your shirt. I ended up at the hospital with a metal sliver that was quite uncomfortable! (Not to mention the embarrassment.) Understand what I am saying?

Also: eye protection. I cannot stress enough the importance of safety glasses or goggles. You should not do this work without them. If you are in an office building, inform the people in the area that there will be brief moments of noise, and advise them not to enter your working area for their safety. Also, ask them to temporarily refrain from using the doorway while you are working. I like to spread my tools and equipment around

**Figure 9.** Spreading your tools around your work area sends the message for people to stay away.

Figure 10


Figure 11

**Figures 10 and 11.** Look at these two photos in succession. See how sometimes you may not have the full picture, even if you think you do? Check everything carefully before beginning to find any potential problems or issues.

the area that I am working in (*Figure 9*). Doing this sends a message of "stay away from me" to those who try to enter the doorway while you're working. On the other side of the door, I place a service cart to deter anybody from entering my workspace. This will help reduce the chance of you or somebody else getting hurt while you're working.

## Potential Traps

Don't get caught up in a trap — always inspect the door and frame for problems and issues before proceeding. Sometimes, things may not be as they seem. Look at *Figure 10* and then *Figure 11*. Now do you see the full picture? Inheriting existing problems that you were not aware of can get you into serious trouble — just like a mouse who only focuses on the cheese and never notices the trap that catches him. Check everything that will impact on how the electric strike will function and the type of electric strike that you are installing: the door, doorframe, hinges, whether the door has a door closer, the operation of the door and its closer, whether the door is fire rated and whether the door is a fire exit.

Make a note and, if possible, take a picture of any existing problems and report them to your client before starting your job. Here are a few issues that I have found prior to installation of this electric strike.

*Potential Trap 1.* The first problem I found — the latch and strike plate misalignment — was quite obvious. *Figure 12* shows that the latch from the lock will not go into the strike plate. The strike plate was hitting on the flat of the latch and not the bevel. The latch would not go into the strike plate without retracting it with the handle. This was caused by the door being too close

**Figure 12.** The latch and strike plate were misaligned.

**Figure 13.** The second problem was that somebody jammed a large sheetrock screw into the latch, which had split the wood door. This would likely cause future issues.

**Figure 14.** The top hinge caused the door to bind at the top where the arrow is pointing.

to the doorframe. The door needed to be adjusted to properly fit into the doorframe. I knew that if the latch would not go into the strike plate, it most likely would not go into the electric strike once I installed it either. This was a matter of concern to me because I didn't want this to become my problem after I installed the electric strike.

*Potential Trap 2*. The second problem (*Figure 13*) is that somebody jammed a large sheetrock screw into the latch, which had split the wood door. The screw would more than likely back out, hang up, bump or catch on the electric strike, or cause a problem with the electric strike in the future, possibly causing a recall on my work. This was somewhat troublesome because this, too, would become another problem that I would inherit.

*Potential Trap 3*. The third problem was that the door was not properly sitting in the doorframe. The door had dropped (*Figure 14*), so there was a problem with the door alignment. It is a little hard to see in the photo, but the problem was the top hinge causing the door to bind at the top where the arrow is pointing. Once again, this more than likely would be a problem that I'd inherit.

*Potential Trap 4*. The fourth problem was that the wrong lock was on the door. This door is going to be used for access control. The lock on the door is an entrance-function lockset and not a storeroom-function one. Notice the button on the inside of the door handle (*Figure 15*).

The problem with this situation is that the door will be using a card reader from the outside. Once the credential is accepted by the reader, the electric strike will unlock, and entry through

**Figure 15.** The wrong lock is on the door; it was going to be used with a card reader.

the door will be permitted. A reasonably prudent person would assume that the door lock will always be locked. This assumption cannot be made because an entrance-function lock can either be locked/secure or unlocked/unsecure. There is a possibility that the lock could be left in the unlocked/unsecure mode. This would mean that a person could obtain access with just a turn of the handle if the door lock were to be in the unlocked/unsecure mode — without using an access credential. This is not correct and is a major security issue, but one that can easily be corrected with the proper lockset.

Once I found the potential traps mentioned above, I reported them to my client. Luckily for me, my client was honest and frank about the door and told me that he was aware of the problems. He had already tried to correct them, without success. Hmm…. Did he put that sheetrock screw in?

I really appreciated his honesty. He asked me if I could correct

**Figure 16.** The first step is to remove the strike plate from the doorframe.

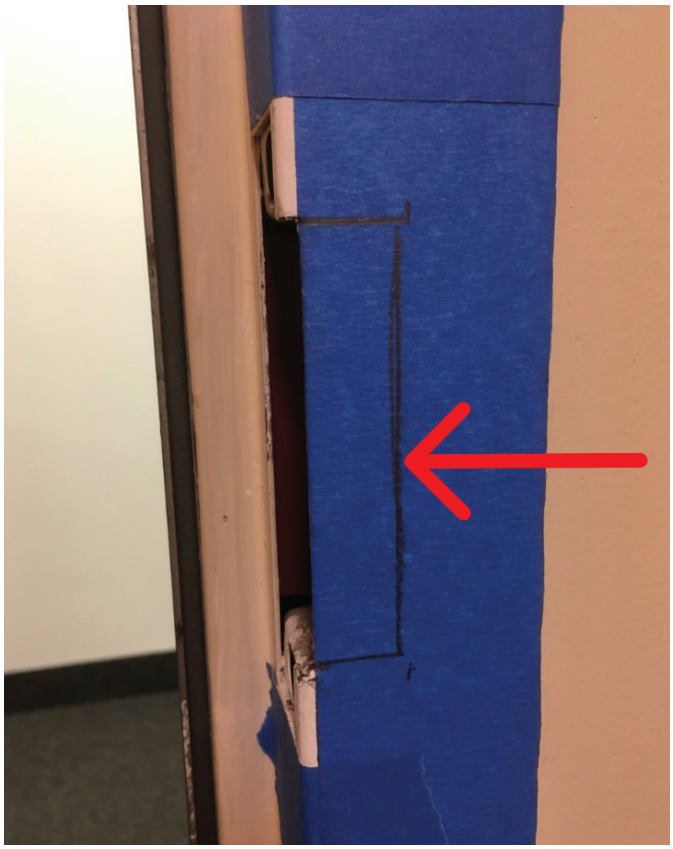


**Figure 17.** Mark your cutout for the electric strike on the painter's tape.

Figure 18

Figure 19

**Figures 18 and 19.** The author used an HES template specifically made for the 5200-electric strike.

**Figure 20.** The author used a jigsaw to cut out the marking he made on the doorframe.

the problems, and "Yes, of course" was my answer. I corrected the problems except replacing the entry lever lockset. He said he would take that up with the building property manager and have the building replace it. *Note: I indicated this on my service work order after I completed the job and got his signature to verify that I had made him aware of the problem. This could possibly save me in the future if the lock never gets replaced and an incident occurs. Always CYA! The few minutes to write things up are always well worth the time.

Now that I had circumvented the traps, the door was swinging properly and the issue with the latch was resolved, it was time to install the electric strike.

## Installation Steps

Once you have selected your electric strike, consider how best to install it. Have you ever heard the phrase "All roads lead to Rome?" (This phrase is attributed to Alain de Lille, a French theologian and poet.) The same can be said for installing an electric strike. There are many ways that we complete our jobs and many ways to install an electric strike. So, who's to say what is the best path? Not me. If you are comfortable doing something your way and it works, stay the course and keep at it.

For the novice who has not had enough experience to choose a personal favorite approach, I offer the following method to install electric strikes. It can be done by someone with minimal experience and basic tools. It's a good approach for those just starting out who don't want (or cannot afford) to spend a lot of money on installation tools. Don't get me wrong — there are tools that can speed up the process, such as templates and special jigs for routers and they are awesome. I have some of them myself, but they, of course, cost money. Unless you know that you will definitely use the special templates and jigs in the future, the return on your investment to purchase them may not be worth it.

I took the following steps to install a HES 5200C:

1. Remove the strike plate (*Figure 16*) from the doorframe. Make sure that there are not any problems with the mounting holes from where you removed the two screws. If you find a problem, such as stripped-out holes, now is the time to correct the issues.

2. Apply painters' tape to the doorframe. This will help protect the paint from nicks, scratches and scuffs as you work. This is what you will draw your cut lines on. The extra step of using painters' tape is well worth it. It will be the difference between ending up with a high-quality, professional-looking job and a rough-looking, unprofessional one.

3. With a pencil, mark your cutout for the electric strike on the painter's tape (*Figure 17*). You can either use a carpenter's square or a ruler to measure, and then draw your marks.

   I recommend using a sharpened pencil because it will leave a dark but thin line that you can see. If you choose to use a marker or Sharpie, your line will be too thick. Yes, you will be able to see it well (undoubtedly, better than the pencil mark). However, more than likely, the line will be about 5⁄32" thick and could lead you to cutting too much material out of the doorframe. Remember, once you cut it out, you can't put it back. If you use a magic marker, make sure to cut on the inside of the line.

   Although you don't need to use one, I used an HES template specifically made for the 5200-electric strike (*Figures 18 and 19*). See the note at the end of the article.

4. Time to put on your safety glasses or goggles. Use a jigsaw to cut out the marking you made on the doorframe (*Figure 20*). I use a jigsaw to make my cuts because it is quick, clean and accurate. The jigsaw that I use has a movable scrolling knob that permits me to freehand the cut or lock it in. Use a good-quality blade that is made for metal. Additionally, before starting your cuts, make sure that the blade is not too long. If it is too long, it will bottom out in the doorframe and cause the jigsaw to bounce back towards you. If necessary, shorten the blade before you start.

   If you don't have a jigsaw, you can use a Dremel tool with a heavy-duty cut-off wheel to accomplish the task. However, I am not a big fan of using a Dremel tool for this type of job for the following reasons:

   - It will produce a nasty dust and an offensive smell that you will be forced to breathe, so a dust mask is a necessity. Not to mention the nasty dust that will be left behind on the doorfame and surrounding area.
   - It will produce sparks as you work. Sparks in an office are never a good idea.
   - It will make the doorframe extremely hot to the touch.
   - The heavy-duty cutting wheels will sometimes break and shatter/explode into pieces while cutting.
   - It is easy for the wheel to catch and run, possibly cutting something you did not intend to cut.


Figure 21


Figure 22

**Figures 21 and 22.** You can use a hand file or electric file to file the opening and smooth any rough edges on the cutout.


Figure 23

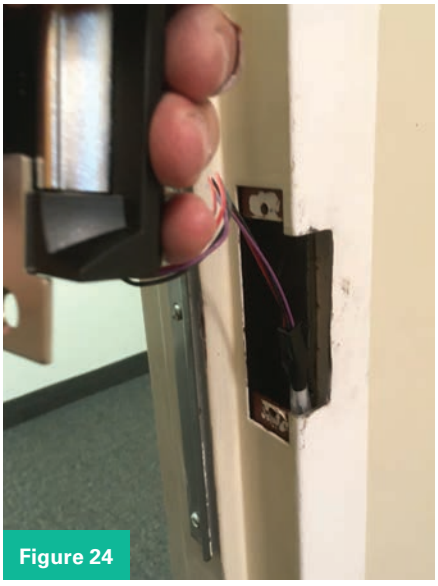


Figure 24


Figure 25

**Figures 23-25.** The author is gently installing the electric strike into the doorframe.

5. Once you have made the cutout for the electric strike, file out the opening and smooth any rough edges. You can use a hand file (*Figure 21*) or an electric file (*Figure 22*). The electric file is a nice tool to have and can speed up the job, but it's not necessary to complete the installation. A hand file, although a bit slower, will get the job done just as well.

6. Test fit the electric strike to make sure it fits properly. Make any needed adjustments, including horizontally. Also, make sure that there are no sharp edges that the wires or you can possibly get cut on.

7. Gently install the electric strike into the doorframe. Do not force or hammer the electric strike into it (*Figures 23-25*). It should fit in snugly but with little or no resistance during installation. Sometimes, this may require you to tweak things a bit with your file on your cutout. In the photos, I am installing the electric strike for an access control company. The access control company will come back later and terminate the electric strike into the access control system. This is a pretty common practice with access control companies.

   As mentioned, the HES 5200 comes with two plug-in

connectors (pigtails, as seen in *Figure 5*). One is for 12-VDC and the other is for 24-VDC. The access control company told me that it would be using 12-VDC power, so I attached the 12-VDC connector to the electric strike. Dust and debris from sheetrock and insulation are often found in the doorframes and have a tendency to get onto the wires of the electric strike. So the dust and debris would stay away from the wires, I slipped a bag (the bag that the pigtails originally came in) over the wires. I also put the spare 24-VDC connector and the three B connectors in the bag for the access control technician and sealed the top of the bag with electric tape (*Figure 23*). This is to prevent debris from getting into the end of the connectors and causing future problems.

8. Close the door and make sure that the alignment of the latch is OK with the electric strike (*Figure 26*). Also, adjust the horizontal adjustment on the electric strike so that the deadlatch on the strike is working and installed properly. The deadlatch should not fall into the electric strike.

**Figure 26.** Close the door and make sure that the alignment of the latch is OK with the electric strike.


Figure 27


Figure 28

**Figures 27 and 28.** These images show the HESCUT-MTK template and the box it comes in.


Figure 29

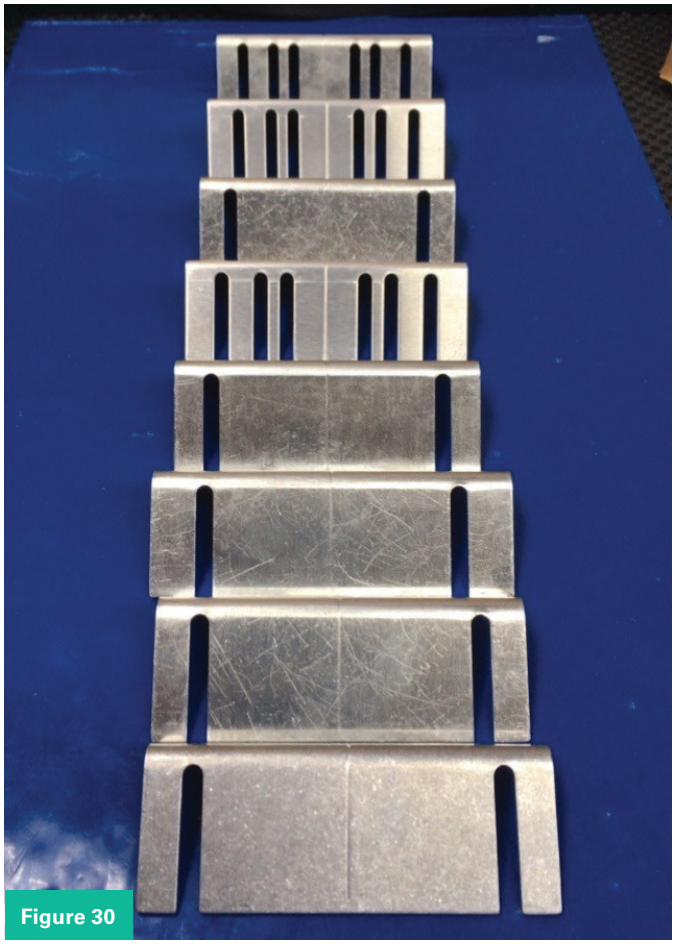


Figure 30

**Figures 29 and 30.** Here, you can see the front and back of the template attachments.

**"Although you do not have to use the template, it sure does make the installation go a bit more smoothly."**

9. Show the completed installation to the client, and answer any questions the client may have. Then have the client sign off and, if possible, collect payment and move on to your next project.

## NOTE: The HESCUT-MTK Template

I wanted to take a moment to further discuss the template that I used in the HES 5200C installation above. As noted, it's not necessary to have a jig or a template to complete the task, but it does make the job easier. The template that I used is the HESCUT-MTK template ("MTK").

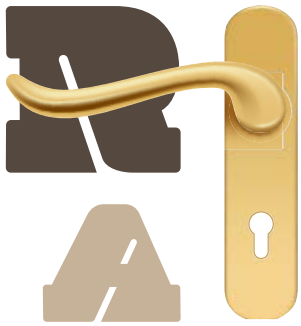
The MTK template replaces using a carpenter's square (or ruler) to mark the cutout for the electric strike (as described in step 3 in the installation instructions above). It's a metal template plate that will fit into the ANSI door frame cutout (*Figure 27*) with attaching screws. The template plate attaches to one of eight lip template extension attachments for different HES electric strikes. They are 1006, 1500, 1600, 4500, 5000, 5200, 7000 and 7501 series electric strikes.

The kit also includes two attaching screws that screw onto the main template plate. Each lip extension has a cutout slot so you can adjust the template to the exact thickness of the doorframe.

*Figure 28* shows the box it comes in, with the part number HESCUT-MTK. *Figures 29 and 30* show the front and back of the attachments. The template is quick to set up and very easy to use. Although you do not have to use the template, it sure does make the installation go a bit more smoothly. I would say that this is a good tool to have if you continually install HES electric strikes or think you may in the future.

**Rick Karas, RL, CFDI, AFDI**, started in the locksmith industry in 1983. A licensed locksmith, he has experience with many physical security disciplines, including access control systems, intrusion detection systems and video monitoring systems. He works in both commercial and institutional settings. Rick owns Phil-Rich Lock, which serves the Washington, D.C., metropolitan area.

# FIXING A STORM DOOR WITH A PROFILE CYLINDER LOCK



**Sal Dulcamaro** troubleshoots when a customer can't open a storm door.

Storm doors have changed over the years. When I first started in locksmithing back in the middle 1970s, most houses had lightweight, thin aluminum storm doors. The typical storm door locked and unlocked from the inside without outside key access. The occasional key-locking storm door lock would usually use a disc tumbler cylinder in the push button on the outside of the lock.

For the last few decades, newer, more expensive homes have come with heavier and more deluxe storm doors. Decorative glass — often running the full height of the door — makes the doors even heavier. These newer, decorative storm doors often come with lever handles and profile-style lock cylinders (*Figure 1*). The customer originally called me because she didn't have a key to her profile cylinder storm door lock. At that time, I just removed the profile cylinder from the lock to match and replace it.

My local supplier didn't have this style profile cylinder. I hadn't paid close enough attention and realized that all the pin chambers were topped by threaded pin chamber caps. I had the lock cylinder for just a few days when the customer called back and told me she suddenly couldn't open her storm door anymore. I told her I would come back to see what was happening. In the meantime, I had removed the chamber caps to match the lock to a new set of keys (*Figure 2*).

## Getting a Second Look

I brought the cylinder with me when I went back to see why the door wouldn't open. I tried turning the lever handle from the outside, and the door wouldn't open. I tried again using the inside handle, and the door still wouldn't open. I could feel the latch drawing in, but it wouldn't pull all the way inward — at least not far enough for the latch to clear the strike.

Because the front storm door wouldn't open, I had to enter the house through the door connected to the garage. I realized that I'd have to slightly pry the door in the gap between the door and frame to clear a big enough gap to release the partially extended latch. I then had to go back out of the house through the garage-entry door.

Once I was back outside with my tools, I pried a gap between the door and frame while turning the handle to draw in the latch as far as possible. I created a gap a little bit wider than ¼", and the door popped open. While the door was still open, I removed the lock hardware and then let the door close, knowing that it couldn't re-latch.

**Figure 1.** Newer, decorative storm doors often come with lever handles and profile-style lock cylinders.

**Figure 2.** The author removed the chamber caps to match the lock to a new set of keys.

When I had the lock body out of the door, I examined it to see what was happening to cause the latch to not fully retract. The outside trim had the outside handle, and the spindle permanently fastened together. I took the outside trim and slid the spindle through the square opening of the lock body where the actuating piece was (*Figure 3*). You may notice an almost mirror image of the top of the lock to the bottom of the lock. The lock is reversible to accommodate both right- and left-hand doors. There is an identical actuating piece with a square opening for the spindle below the one through where the spindle is inserted. Just above the spindle is the opening through which the profile cylinder would fit. That opening is not for the profile cylinder in a left-hand door (which the customer's door was). The photo cuts off the view of the opening for the profile cylinder for a left-hand door, but that opening is visible in later photos where the lock is attached to the door.

With the spindle engaged with the locking mechanism, I turned the handle as far as possible to retract the latch (*Figure 4*). The handle is fully turned, but the latch is still partially extended. You can see the square opening of the hub not used and a limiter that stops the hub's rotation. If you look closely, you can see the upper hub can't turn any further.

**Figure 3.** The author slid the spindle through the square opening of the lock body where the actuating piece was.

**Figure 4.** The handle is fully turned, but the latch is still partially extended.

## Discovering the Issue

Something was cracked inside the lock case, preventing the latch's full retraction. The lock is no longer usable for a left-hand door but could still be fully functional in a right-hand one. The lower hub (without the spindle running through) would be

**Figure 5.** The replacement lock was nearly identical to the original except for the color of the lock body.

**Figure 6.** The holes for the door prep show that the door could be made right-hand by turning it upside down and mounting on the opposite side of the doorframe.

**Figure 7.** The strike on the frame is reversible upside down.

**Figure 8.** You can see an inside view of the door prep here.

**Figure 9.** The lock body is placed into the pocket of the door.


Figure 10


Figure 11

**Figures 10 and 11.** Looking through the prep holes in the door (*Figure 10*), you can see the slot openings for the profile cylinder that weren't fully visible in the photos of the lock in my hand. You get an opposite view in *Figure 11*.

able to fully retract the latch, but not on this left-hand door.

I needed to order a replacement lock because I don't stock profile cylinder locks for storm doors. The brand of the hardware was Pella, so I searched online until I matched the exact lock. The replacement lock was nearly identical except for the color of the lock body (*Figure 5*), which is generally concealed within the door when installed. You can see a partial view of the lower opening for the profile cylinder (the one used for left-hand doors), which is just below the hub not engaged with the spindle. The openings in the lock body for the spindle and lock cylinder are not used on the same side of the lock body for each handed version of a door. For the left-hand door, the top hub is engaged with the spindle. When the lock is installed, the bottom opening is where the profile cylinder will be attached. If it were for a right-hand door, the lock body would be turned upside down, and the engagement would be reversed. Just looking from this view, a right-hand door would use the bottom hub and the top opening for the profile cylinder.

You may wonder why you can't see the latch extended from the left as we saw with the broken lock. The handle has been fully turned, and the spindle has rotated the hub so the latch is fully retracted and in the open position. That's what a functional lock is obviously supposed to do and why I replaced the old lock.

## A Look at the Door

The door itself is interesting. The holes for the door prep show that the door could be made right-hand by turning it upside down and mounting on the opposite side of the doorframe (*Figure 6*). The strike on the frame (*Figure 7*) is similarly reversible upside down.

Looking from the interior of the house (*Figure 8*), you can see an inside view of the door prep. With the door open slightly, you can see that I placed the lock body into the pocket of the door (*Figure 9*). I had not yet attached the edge mounting screws. You can see the top and bottom of the lock mirror each other. At the very top and bottom are the holes for the screws that mount the lock to the edge of the door. The next holes inward are for the fairly long screw that keeps the profile cylinder fixed within the lock body. In this case, with a left-hand door, that hole would be the one second from the bottom. Next inward from both top and bottom are the dual round locking deadbolts. Directly in the middle is the latch.

Looking through the prep holes in the door (*Figure 10*), you can see the slot openings for the profile cylinder that weren't fully visible in the photos of the lock in my hand. This being a left-hand door, the profile cylinder will go through the lower slot opening. We get an opposite view from the inside (*Figure 11*).

## Assessing the Trim

The outside and inside trim were totally fine, so I didn't need to replace them;

**Figure 12.** The outside lever handle is permanently attached.

**Figure 13.** Here is the inside view of the outer trim.

**Figure 14.** The heads of the mounting screws are visible at the top and bottom.

**Figure 15.** The interior of the inside trim exposes the length of the screws.

**Figure 16.** The author placed the spindle through the square opening of the hub and pushed inward until the trim was in contact with the outside door surface.

**Figure 17.** The round hole of the trim plate is over the spindle.

**Figure 18.** The author is holding the interior handle and the Allen wrench needed to tighten the set screw.

**Figure 19.** You can see the inside lever handle is positioned over the spindle.

only the lock body was broken. The outside trim (*Figure 12*) has the outside lever handle permanently attached, and you can see the hole in the plate toward the bottom where the profile cylinder fits. Since the top slot of the lock body will not be used for the profile cylinder, the solid surface of the trim plate will conceal and cover that part of the lock.

The inside view of the outer trim (*Figure 13*) shows the square spindle attached to the outer lever handle. That spindle will go through the door and lock body to actuate the latch. The top and bottom of the trim plate have the internal threads that will accept the mounting screws to hold the outside and inside trim securely to the door. The inside trim plate also has the hole for the profile cylinder at the bottom and a round hole for the spindle to extend through. The heads of the mounting screws are visible at the top and bottom. The interior of the inside trim exposes the length of the screws (*Figure 15*).

I positioned the outside trim by sliding the spindle through the square opening of the hub and pushed inward until the trim was in contact with the outside door surface (*Figure 16*). You can see the inside trim in place with the round hole of the trim plate over the spindle (*Figure 17*). The top and bottom mounting screws have been attached. I am holding the interior handle and the Allen wrench needed to tighten the set screw (*Figure 18*). I positioned the inside lever handle over the spindle, pushing it inward toward the inside door surface as far as it would go (*Figure 19*). The Allen wrench is in position to tighten the set screw. Once the inside handle is attached (*Figure 20*), all that's left to do is to install the profile cylinder.

**Figure 20.** The inside handle is attached.

**Figure 21.** The profile cylinder has the screw that will secure it into the lock body.

**Figure 22.** Notice the thumbturn is on the right side and too large to fit into the profile cylinder slot.

**Figure 23.** You can see the slot opening of the inside trim.

**Figure 24.** The profile cylinder has been partially inserted into the slot.

**Figure 25.** The profile cylinder has been pushed in further to center it and line up the threaded hole with the screw.

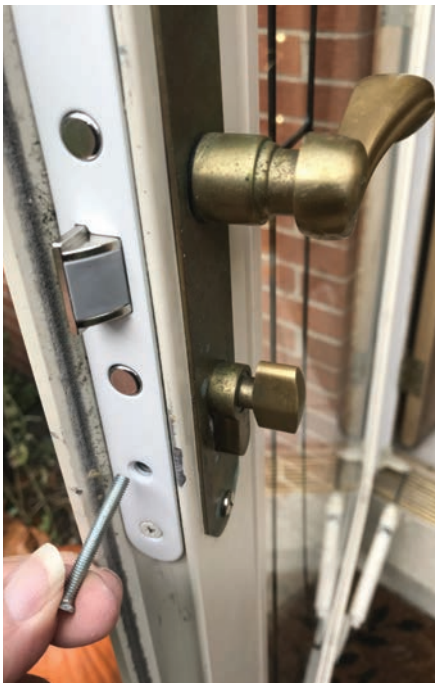


**Figure 26.** The long screw to secure the cylinder will go into the hole between the bottom mounting screw and the lower round deadbolt.

**Figure 27.** You may need to adjust the position of the profile cylinder to make sure the screw lines up with the threaded hole of the lock cylinder.

**Figure 28.** The screw is tightened, and all that's left is testing.

**Figure 29.** The two round deadbolts are extending properly.

## Installing the Profile Cylinder

The profile cylinder has the screw that will secure it into the lock body with a few threads of the screw into the threaded hole (*Figure 21*). The screw must be removed (*Figure 22*) before I can install the profile cylinder into the lock body. Notice the thumbturn is on the right side and too large to fit into the profile cylinder slot. The key side of the profile cylinder must be pushed in first from the inside of the door. You can see the slot opening of the inside trim, and further into the lock is the slot through the lock body (*Figure 23*).

The profile cylinder has been partially inserted into the slot (*Figure 24*) and then pushed in further to center it (*Figure 25*) to line up the threaded hole with the screw that will secure the cylinder. The long screw to secure the cylinder will go into the hole between the bottom mounting screw and the lower round deadbolt (*Figure 26*). You may need to adjust the position of the profile cylinder to make sure the screw lines up with the threaded hole of the lock cylinder (*Figure 27*). Once you tighten that screw, the installation is complete (*Figure 28*). I tested the thumbturn on the inside of the door to make sure the two round deadbolts extended properly (*Figure 29*). I tested the keys on the lock cylinder (*Figure 30*), and it worked perfectly from both sides of the door. The job is complete.

**Sal Dulcamaro** started out in locksmithing in 1975 at age 17. He first practiced as a commercial locksmith before becoming an institutional locksmith in May 2014 for a large hospital. He has been a technical writer for more than 30 years, with more than 300 magazine articles published. He previously served as a contributing editor and a technical editor for Reed's Security Reporter.

**Figure 30.** The keys are tested.

# "Watch Him Like a Hawk"

**Tony Wiersielis, CPL, CFDI,** discusses customers who won't leave you alone and a dilemma involving armatures.

You can buy mugs that shout "But first, coffee …" That's all me. In this case, it's "… and then a rant." I was reminded of the following episode when I heard someone say something I hadn't heard in years: "You gotta watch him like a hawk."

Have you ever had a customer who wouldn't leave you alone? By that, I mean one who watches everything you do and peppers you with questions, some of which make no sense? I'm betting that every one of you has, except the greenest of newbies. At the time this happened to me, I believe I'd been in the trade about two years.

We were working on a funeral home in Jersey City, replacing all the old, tarnished hardware. The owner was a woman in her 60s, a licensed mortician. I was tasked with replacing the locks on the front door. She stood outside watching me like a hawk. When I unscrewed the strike, she asked me if I was going to put it back. I told her I would be installing a new one.

That was the first salvo in a barrage of questions related to anything I touched, removed or installed, or even if I stood still

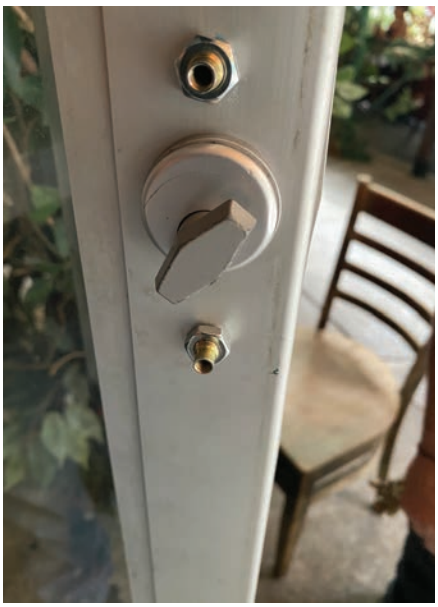


**Figure 1.** The author has installed the bolts for the push paddle and reinstalled the deadbolt.

Figure 2

Figure 3

**Figures 2 and 3.** The latch and paddle are installed.

for a few minutes. I was still a newbie, so this did nothing but erode my confidence. No cell phones, so I couldn't call the other guys I was working with. This cross examination went on for almost an hour before she was called away.

Years and similar experiences later, I figured out that it's probably related to one of the manifestations of obsessive-compulsive disorder. I hope she was as obsessive with her mortician work as she was with everything else.

## Adams-Rite Conversion

The following is a conversion from a deadbolt and thumbturn to a dead-latch and push paddle at that unnamed college in NYC. This door on 13th Street led to a service hallway to the back of an empty store. The store entrance is actually on 14th Street. The fire marshal wanted this done so it was easier to get out; no prior knowledge to do so.

I'm only there two days a week, and I'm usually busy, so I did this project in stages. In *Figure 1*, you can see that I removed the deadbolt, installed the bolts for the push paddle and reinstalled the deadbolt. With that done, it was easy to install the latch and paddle when I came back (*Figures 2* and *3*).

The last step I needed to do was to cut in the strike. In *Figure 4*, you can see the lines I drew in pencil so I could orient the strike. The lines delineate the top and bottom of the strike and where the latch and dead-latch are in relation to the frame. This is so I could line everything up with the strike.

Once I drew those lines, I was able to surface mount the strike temporarily (*Figure 5*). It was temporary because the door had to be pushed close to latch, and that wasn't going to fly going forward; the door needed to close and latch on its own. However, the building's super assured me that nobody used that door but him, so I set a time for the next day that I would be there to finish it.

**Figure 4.** The lines delineate the top and bottom of the strike and where the latch and dead-latch are in relation to the frame.

**Figure 5.** The author surface-mounted the strike temporarily.



**Figures 6 and 7.** To surface mount the strike, the old deadbolt strike hole need to be modified (*Figure 6*) so the flanges on the new strike would fit (*Figure 7*).

To surface mount the strike, I needed to modify the old deadbolt strike hole (*Figure 6*) so the flanges on the new strike would fit (*Figure 7*). I drilled and tapped for the mounting screws and installed the strike.

When I came back, my first step was to cut out for the strike (*Figure 8*). I knew I wasn't going to have rounded corners, so I made them square. To make the strike to fit in perfectly, I finished the prep with a file.

**Figure 8.** This is the cutout for the strike.

**Figure 9.** This is how the author marks for the mounting plate holes for the strike.

Figure 10

Figure 11

**Figures 10 and 11.** The author is checking the countersinks with the head of the screws he's using.

**Figure 12.** The strike is finished.

**Figure 13.** Erase the pencil marks on the frame when you're done.

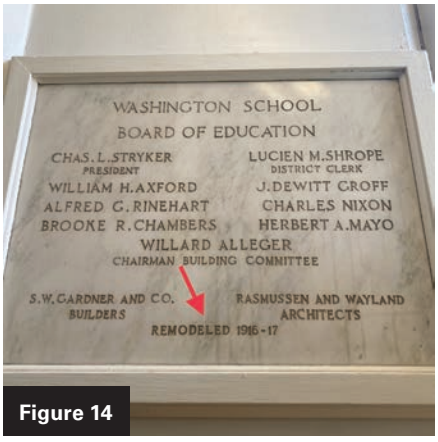



Figure 14

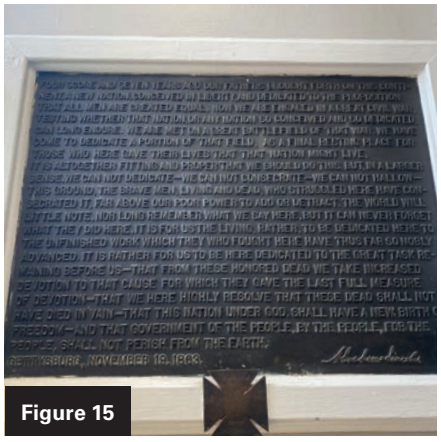


Figure 15

**Figures 14 and 15.** This school was quite old.

*Figure 9* shows how I mark for the mounting plate holes for the strike. The mounting plate is screwed onto the face of the strike from the back. The strike then fits exactly in the cutout, and I use a pencil to mark the holes for the plate. Folks, you can't miss with this method. Be sure to keep the plate oriented the same way as it was when you marked the holes. Don't flip it over.

*Figures 10* and *11* show how I check my countersinks with the head of the screws I'm using. I like to do this so that the head of the screw is flush with the face of the frame and not too deep. Remember that these are not threaded holes like the ones I used for the temp install; these are through holes that should be slightly larger than the screws, and that's usually one size larger in a standard set of drill bits.

*Figure 12* shows the finished strike. The door closes by itself. I would have liked to have done rounded corners and some cleaner lines. I probably could have done so with a router and metal template, but I don't have one available at the school. *Figure 13* is the eraser I use to remove the pencil marks on the frame.




**Figures 16-18.** These images show one of the armatures, the mounting bracket on it and the bracket by itself.

## The Armature Dilemma

This happened at a really, really old school in New Jersey. I'm talking the first renovation was done in 1916 (*Figure 14*). *Figure 15* is the Gettysburg Address. Everything in this place was old. Our job was to convert existing cylinders to BEST and install panic bars and door closers.

We found that the doors had armatures on them for magnetic hold-opens. For the newbies, this means there's an electromagnet mounted on the wall. Then there is a plate (called an armature) mounted on the door that sticks to the magnet when it's powered, holding the door open. The magnet is connected to the fire alarm system, and if the alarm goes off, it drops power to the magnets, allowing the doors to close.

You'll see this a lot in schools, hospitals and other large buildings, usually on doors "in the path of egress" or on the way to an outside exit or fire stairwell. These doors and hardware will be fire-rated. They must close and latch to avoid the spread of fire and smoke, and they cannot have any type of dogging device. Generally, outside exit doors are not fire rated and can be dogged open, but check, as that's not always the case.

Back to the story. *Figures 16-18* show one of the armatures, then the mounting bracket on it and the bracket by itself. The armature plate is made to swivel from side to side so it can hit the magnet flat and stick to it. Often, you'll see an extension on the door that has the armature on it. Sometimes these extensions can be a foot long. These are necessary because sometimes the door can't open 180 degrees to hit the magnet. I don't have a picture of an extension arm, but you're going to see the one we made.

**Figure 19.** One of the closers is shown over the old installation holes. Every door was slightly different in relation to the magnet.

Figure 20

**Figures 20-22.** The author and his team created makeshift armature extensions with parts from Home Depot.

Figure 21

Figure 22

Our issue was with the closers. In *Figure 19*, you can see one of our closers over the old installation holes. Every door was slightly different in relation to the magnet, so we couldn't really use the closer template dimensions. We had to eyeball everything to make sure the armature hit the magnet.

The very last set of doors gave us trouble. We had to put the closers in a certain place, meaning the doors could only open to a certain degree. There were no extensions on the armatures, and we couldn't find any. *Figures 20-22* show how we cobbled something together from parts Bill bought at Home Depot. Not much to look at, but it will work until they get their extensions.

## A Tip, a Tool and Things Seen in Vegas

*Figures 23* and *24* show how I deal with those annoying knurled mortise cylinder nuts. I've often found them situated where I can't get a channel lock around them to tighten them. Hand-tight isn't good enough; the cylinders like to come loose fairly soon after being installed.

In the first picture, you can see the four slots I cut in the nut with my Dremel. In the second picture, I'm using a flat-blade screwdriver to tighten the nut. I'm tapping the screwdriver around with the handle of another screwdriver, but you could use a small mallet. The nuts tend to stay tight once you've done it this way.

*Figure 25* is the tool mentioned in the subhead above. Most of you will recognize it as a tool used to tighten a rose nut on a Unican cylindrical lock. In the

**Figure 23.** Four slots have been cut into the nut with a Dremel.

**Figure 24.** You can use a flat blade screwdriver and a small mallet to tighten the nut.

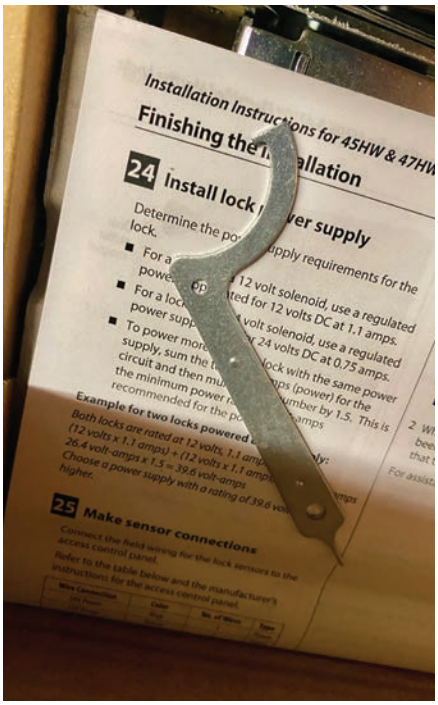



**Figure 25.** This is a tool used to tighten a rose nut on a Unican cylindrical lock.

photo, you can see one of these wrenches on top of a BEST 45H mortise lock, still in the box. I recently received three of these locks, and I was surprised to find one of these wrenches in each box.

That was not the case before. BEST had a spanner wrench (part number KD316) that was used to tighten the rose nuts on the 45Hs. (If you Google that part number, you'll see that the tool closely resembles a Schlage tool used on their heavy-duty cylindrical locks). However, the instructions in the box would show drawings of the tools needed to install the lock, and the KD316 was always listed as "optional," and the tool wasn't supplied. This led other trades to install the rose nuts on the locks and hand-tighten them out of ignorance.

The consequence of not using the tool was that, as the levers were pushed down, the nuts would loosen over time. When this happened, the nuts would rub against the levers. They would droop when pushed down, giving the impression that there was an issue with a brand-new lock.

That triggered callbacks. When I went on these calls, I would hand out the KD316s and explain the issue to the maintenance department. They would realize it was an installation issue and not ours.

For the above reasons, I'm very happy that dormakaba, which owns BEST, decided to supply the wrenches. On the mammoth ring of keys I carry at that college I always write about, I have one


**Figure 26.** This shirt rings true for many of us.


**Figure 27.** This tool from GKL is used to straighten out bent hinge brackets on metal doors and frames.


Figure 28


Figure 29

Figure 30

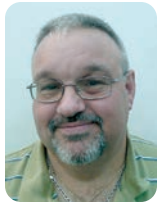
**Figures 28-30.** These images show a bathroom stall privacy lock in the Las Vegas airport.

of the Unican wrenches all the time. It's more compact than the bigger one, and it's there when I need it.

## Seen in Las Vegas

I saw a few interesting things at the ALOA Security Expo in Las Vegas. *Figure 26* is a shirt I got at one of the booths, and it really rings true in this business. *Figure 27* is a tool that was at the GKL booth, and it's yet another one of their genius ideas. This tool is used to straighten out bent hinge brackets on metal doors and frames. You screw it on the bracket and use the handle to fix the bracket. I couldn't take one with me, but I'm ordering one soon.

*Figures 28-30* show a bathroom stall privacy lock in the Las Vegas airport. Kind of neat, and something I hadn't seen before.



**Tony Wiersielis, CPL, CFDI,** has more than 37 years of experience and has worked in most phases of the trade throughout the New York metropolitan area. He was named *Keynotes* Author of the Year for 2016 and serves as ALOA's Northeast Director. Reach him at aew59@juno.com.

# ALOA

## ALOA Security Professionals Association, Inc.

# Membership Application

**CANDIDATE PLEASE TYPE OR PRINT**

Name: ❑ Mr. ❑ Mrs. ❑ Ms. First_____ Last_____ MI____Designation_____

Business Name _____

Mailing Address _____

City_____ State_____ Zip Code_____ Country_____

Work Phone_____ Home Phone_____ Fax_____

Email Address_____ Website_____

Date of Birth (required)_____ Place of Birth_____ Social Security # (required) _____

US Citizen? ❑ Yes ❑ No If No, citizen of what country?_____

ALOA occasionally makes its members' addresses (excluding phone numbers and email addresses) available to vendors who provide products and services to the industry. If you prefer not to be included in these lists, please check here: o

## PROFESSIONAL INFORMATION

Please check the description that best describes you (check all that apply)

❑ Locksmith Owner
❑ Electronic Security
❑ **Institutional**
❑ Other _____
❑ Automotive
❑ Security Professional
❑ Safes
❑ Employee Technician
❑ Mechanical Door Locks & Hardware
❑ Investigative

Are you licensed to perform Locksmith/Access Control work in your state? o Yes o No If Yes, License #_____

Business License #_____ EIN #_____

Any other license held by applicant (Contractors Lic., Low Voltage) _____

Any other states you do business in and licenses held in those states _____

List all phone numbers used by your company/companies:_____

_____

Number of Employees_____ ❑ Store Front Business ❑ Mobile Only

How did you learn locksmithing/access control? _____

How long have you worked in the locksmithing/security industry? _____

ALOA member Sponsor Name/Who introduced you to ALOA?
Sponsor Name (Required)_____ ALOA Number_____ Years known _____

Have you ever been a member of ALOA before? ❑ Yes ❑ No If Yes, when?_____ ID #, if known _____

Are you a member of any local locksmith association? ❑ Yes ❑ No If Yes, name of association: _____

Give the names and phone numbers of two industry-related references:

Name_____ Company_____ Phone Number_____

Name_____ Company_____ Phone Number_____

**IMPORTANT:** Have you ever been convicted of a felony? ❑ Yes ❑ No If yes, please give details on a separate sheet.
All convictions are reported to the Advisory Committee for review.
A routine background check is performed on all new applicants, unless you live in a State in which passing a background check is a part of the licensing requirements. Non-US citizen background checks are required. If you live in a country that does not allow third party background checks, you will be required to submit an authentic report upon request (no copies/duplicates allowed) before final membership approval can be granted. A copy of your business permit/license, license number, business card, company letterhead or suitable proof of employment in the locksmith/access control business must accompany application.

## TYPES OF MEMBERSHIP AND REQUIREMENTS

Check only one box from the categories listed below:

**Active Membership**
Persons actively engaged in the locksmith/access control industry for a minimum of two years and have achieved one of ALOA's recognized program designations.

| | | | |
|---|---|---|---|
| ❑ US and US Territories | $270 | ❑ I elect to Go Green | $240 |
| ❑ International | $280 | ❑ I elect to Go Green | $210 |

**International Association of Investigative Locksmiths Membership**
Must be an ALOA Member in order to join the IAIL.

| | |
|---|---|
| ❑ US and US Territories | $65 |

**Probationary Membership**
Persons undergoing training to qualify as an Active member, who have not received one of ALOA's recognized program designations. No person shall be a probationary member for more than three years.

| | | | |
|---|---|---|---|
| ❑ US and US Territories | $270 | ❑ I elect to Go Green | $240 |
| ❑ International | $280 | ❑ I elect to Go Green | $210 |

**Probationary Membership – No Sponsorship Required**
Persons undergoing training that are new to the industry and do not know any Active member for sponsorship. Probationary period extended from 90 days to one (1) year. Probationary status lifted if sponsor acquired within year. Must obtain license if residing in State requiring licensure. A second background check will be performed by ALOA after 2 years of the 3 year maximum term. Any violation of ALOA Code of Ethics during probationary period will result in immediate termination of membership.

| | | | |
|---|---|---|---|
| ❑ US and US Territories | $270 | ❑ I elect to Go Green | $240 |
| ❑ International | $280 | ❑ I elect to Go Green | $210 |

**Allied Membership**
Persons whose position in the locksmith/access control industry relates to locksmiths, and cannot qualify for any other class of membership.

| | | | |
|---|---|---|---|
| ❑ US and US Territories | $270 | ❑ I elect to Go Green | $240 |
| ❑ International | $280 | ❑ I elect to Go Green | $210 |

Note: Your application will be processed with a 90 day waiting period.
Any institutional locksmith not using his/her work address must submit a letter from employer stating that you are an institutional locksmith.

## DUES AND FEES

An application fee and the appropriate dues must accompany the application in order for processing to begin.
Application Fees Schedule:

US and US Territories ..... $70
Canada, Denmark, Ecuador, New Zealand ..... $160
Australia, Bahamas, Barbados, Belgium, Belize, Bermuda, China, France, Haiti, Philippines, UK ..... $210
Israel, Korea, Papua New Guinea, Saudi Arabia, United Arab Emirates ..... $360
Applicants from countries not listed must submit background check and report from local Law Enforcement with application.

## FINAL CHECKLIST

❑ Required Proof of Employment in Industry
❑ Annual Dues Amount _____
❑ Application Fee _____
Total Amount Due _____

## METHOD OF PAYMENT

❑ Check ❑ MasterCard ❑ Visa ❑ American Express ❑ Discover

Card Number_____ Expiration Date_____ SEC_____

Print Name on Card _____

Signature_____ Date_____

I understand and consent that in the course of reviewing this application ALOA may review publically available information for the purpose of verifying the information submitted and do a background check.

I certify that all statements are true and, if accepted as a member, I agree to abide by the rules, regulations, and Bylaws of ALOA, and further agree to adopt the Code of Ethics of ALOA as my own, and adhere to it to the best of my ability. Should my membership be discontinued, I agree to return my membership card and cease use of all ALOA insignia.

_____

Signature Date Signed

Dues, Contributions, Gifts are not deductible as charitable contributions for Federal income tax purposes. Dues payments are deductible as an ordinary and necessary business expense. However, donations made to the Legislative Action Network ARE NOT deductible as a charitable gift or business expense.

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# Once More Into the Breach

## By Jim Hancock, CML, CMST

Seems like after each ALOA Convention, I spend a great deal of time explaining the classes and testing that were part of the event. This year seems to be no different. We sent out surveys — which we hope take the place of the paper version given at the end of class — to all class attendees. Some of the same issues always come up, and they are re-visits for most who have been to more than one ALOA Convention. To hopefully explain things to those who attended for the first time and reaffirm to others, here's the abridged version of class approval and testing for ALOA.

### Classes

Starting approximately 30 days after the completion of ALOA classes at the annual convention, the class evaluations are compiled by instructor and class and forwarded to the pertinent instructor(s). If the evaluations are good or better, no action is taken beyond the request to make classes better. If they are sub-par, the class is discussed between the instructor and ALOA Education, with deficiencies addressed based on the evaluations. Instructors have a two-year window to improve these issues before the class(es) are removed from the rotation. Obviously, this is somewhat subjective, as we may see eight of 10 students who find everything great, while two have issues. We do not discount these two; we see if any previous class attendees had the same issues, and we address accordingly.

If a majority of attendees think the class lagged behind what ALOA Education sees as a standard, then the class is suspended until it is revamped completely.

### Testing and Classes

Several years ago, we started offering after-class testing that tied directly to classes. However, we have preached for years that we *do not* teach a test; we teach a job. You are required to know a little about the content from on-the-job training (OJT), and some content based on a class. Every year, it seems there are complaints that the class did not teach the test content. Well, sorry, but as someone who has been in the industry for over 45 years and has had to learn through OJT as well as classes, what good is an exam and/or credential if it can be learned/passed in a class without practical experience?

If you earn a credential, you should indeed "earn" it and not be awarded simply because you sat in a class and learned a few things.

**"However, we have preached for years that we *do not* teach a test; we teach a job."**

So, as I say every year, these classes and the testing are evaluated yearly and upgraded as needed to stay as current as possible. However, if you assumed you could take a class and then easily pass the test, I will once again say, "We do not teach a test; we teach the work." The class helps, but it will not now or ever give you 100% nor even 70% of the info needed to pass a credential exam. This is no different than the bar exam for attorneys or those given in the medical fields.

If you have any questions about classes or testing, please feel free to reach out to us at education@aloa.org.

**Jim Hancock, CML, CMST,** is ALOA's education manager. You can reach him at jim@aloa.org or (214) 819-9733.

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Classified advertising space is provided free of charge to ALOA members and for a fee of $3 per word with a $100 minimum for nonmembers. Classified ads may be used to advertise used merchandise and overstocked items for sale, "wanted to buy" items, business opportunities, employment opportunities/positions wanted and the like. Members or nonmembers wishing to advertise services or new merchandise for sale may purchase a "Commercial Classified Ad" for a fee of $4 per word with a minimum of $100.

Each ad will run for three consecutive issues. For blind boxes, there is a $10 charge for members and nonmembers. All ads must be submitted in a word document format and emails to adsales@aloa.org by the 15th of the month two months prior to issue date. ALOA reserves the right to refuse any classified advertisement that it deems inappropriate according to the stated purpose of the classified advertising section.

## AD INDEX

| Advertiser | Ad Location | Website | Phone Number |
|---|---|---|---|
| **ASSA ABLOY** | page 11 | www.SimpleK.com | |
| **ASSA-Ruko/Technical Services** | page 19 | www.assatechnicalservicesinc.com | (724) 969-2595 |
| **Autel** | pages 14, 15 | www.autel.com | (855) 288-3587 |
| **Big Red** | page 19 | www.bigredsafelocks.com | (877) 423-8073 |
| **Bullseye S.D. Locks** | page 19 | www.bullseyesdlocks.com | (800) 364-4899 |
| **ClearStar Security Network** | page 60 | www.clearstar.com | (360) 379-2494 |
| **Framon** | page 7 | www.framon.com | (989) 354-5623 |
| **Hollon Safe** | page 1 | www.hollonsafe.com | (888)455-2337 |
| **ICOR** | page 49 | www.bestlocksdepot.com | |
| **J.C. Gury** | page 51 | www.jcgury.com | (800) 903-3385 |
| **Locinox** | page 35 | www.locinoxusa.com | (877) LOCINOX |
| **Lock Caddy** | page 25 | www.lockcaddy.com | |
| **Seclock** | inside front cover, page 19 | www.seclock.com | (800) 847-5625 |
| **Security Door Controls** | page 37 | www.sdcsec.com/spacesaver | (800) 413-8783 |
| **Stone and Berg** | page 21 | www.stoneandberg.com | (800) 225-7405 |
| **Turn 10 Wholesale** | page 3 | www.turnten.com | |
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