The official publication of ALOA SPAI, an international association of security professionals November 2021

KEYNOTES

SECURING YOUR SUCCESS

A CHALLENGING PROX JOB

No VIN or keys, and a locked-out KVM

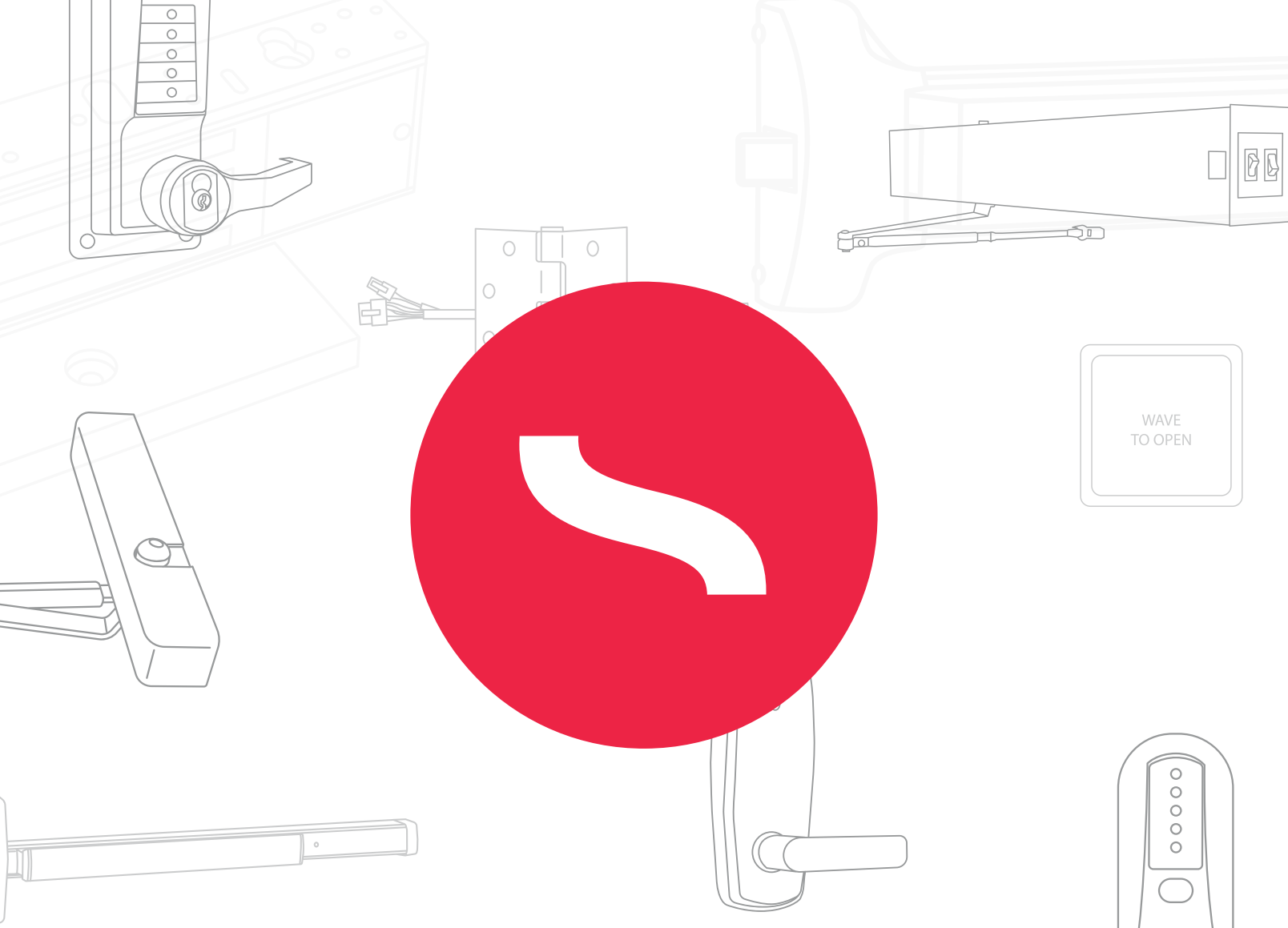
PLUS

Classroom Security For Exit Devices

Installing the Von Duprin 99 CDSI

How to Get a Legislative Bill Killed

Forensic Vehicle Investigations | Facilities IQ Partnership | Fixing Others' Mistakes



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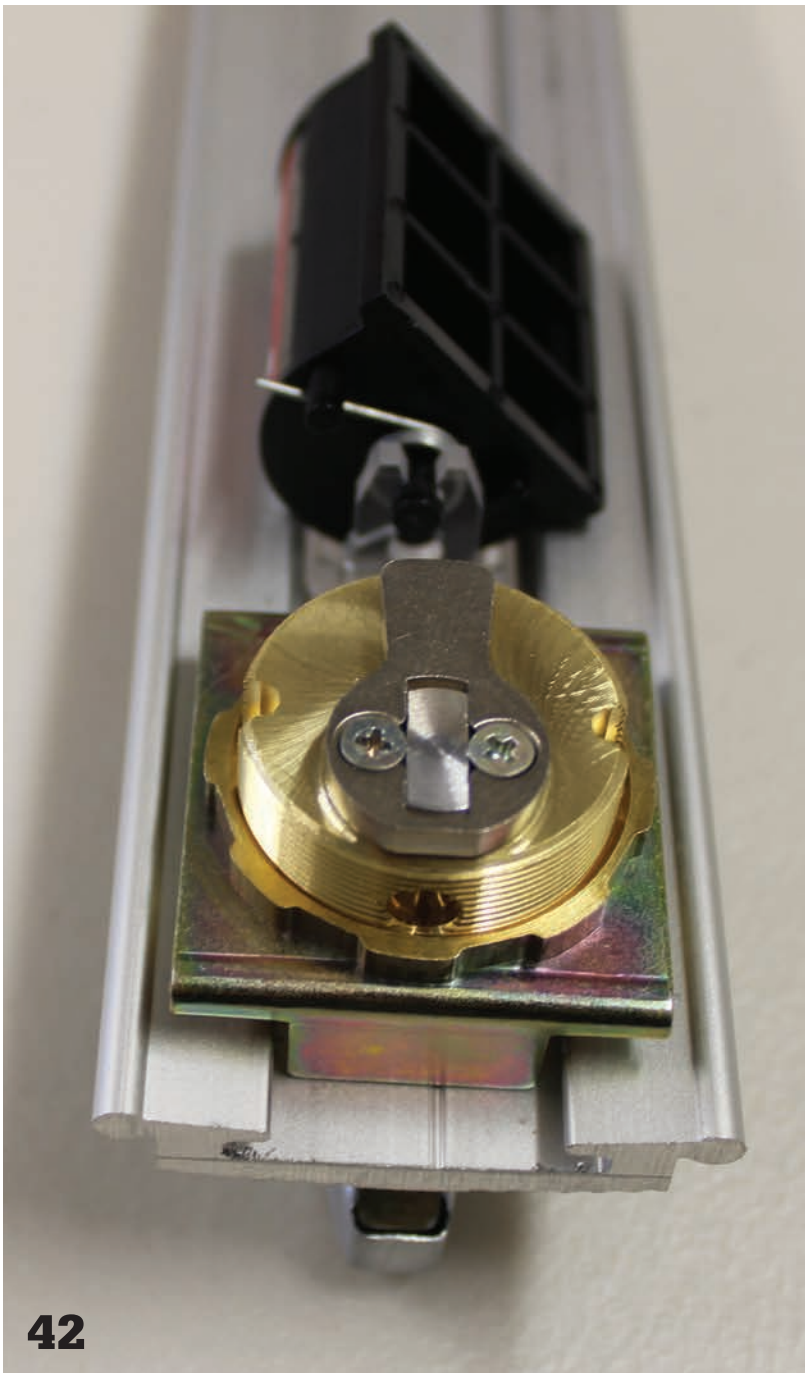

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Mission Statement: The mission of the ALOA Security Professionals Association, Inc., as dedicated members of the security industry, is to ensure professional excellence and ethics; create a public demand for professional locksmith services; represent 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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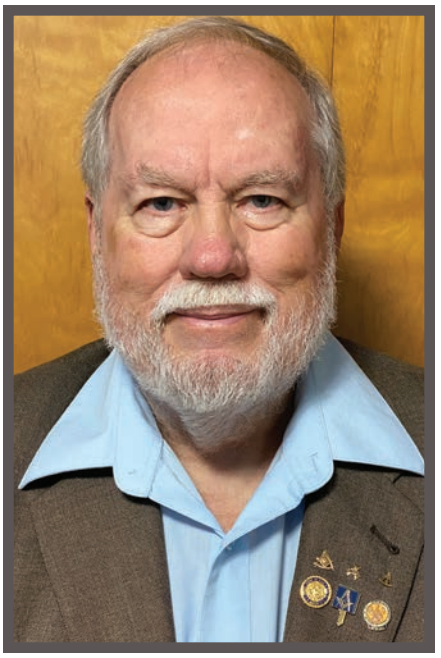
Automotive Locksmithing: A Changing Field



"The days when you could buy about $200 worth of tools and 50 key blanks and then start doing cars is long gone."

The world of automotive locksmithing is an extremely challenging area.

As you read in Mary May's column last month, ALOA is starting an automotive division, aptly named the International Association of Automotive Locksmiths (IAAL). This has been needed for many years. The days when you could buy about $200 worth of tools and 50 key blanks and then start doing cars is long gone. Now, one programmer can cost between $3,000 and $6,000, not to mention all of the other advanced tools and equipment you need. However, like safes, there is a lot more money to be made in cars and a lot less competition. This drives up prices.

When I started back in 1976, it was much simpler. I can still remember in 1978 when GM went to a screw-retained ignition lock. Many locksmiths had no idea how to work on them, and you had to tear the steering column down to get them out. Gone were the days of the slaphammer. Then came the airbags, and they scared a lot of locksmiths out of doing cars. I remember sitting in a class and the instructor tossed an airbag across the room. We all expected it to explode. Then he explained that it needed an electrical charge to set it off.

Vision for the New Division

What will the new automotive division look like? As of now, we are envisioning it resembling SAVTA: It will have its own board of directors, convention and by-laws. It will have a seat on the ALOA Board of Directors so that its interests are protected (the same as SAVTA is now). The main involvement by ALOA will be in helping set up its convention. Being a smaller gathering than the ALOA Convention (for now), there will be the option of having it in a Tier 2 convention city, which means a lot more possible locations for the convention to be held.

ALOA will continue to offer some automotive classes at the national convention; that will not go away. There is a huge need for automotive classes and, if you do not keep up, the learning curve to catch back up is tremendous. Just ask anyone who decided to get out of it and now wants back in.

The formation of a new division doesn't happen overnight, but we hope to make significant progress toward that goal in the next few months. We're excited to keep you all posted as new information arises.

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

Hopeful and Grateful

This time last year, ALOA introduced its podcast. Hosted by Bill Lynk, the *Locksmith Talk With ALOA* podcast has explored a variety of security-industry topics (and even featured our ALOA presidential candidates for an interview). During the pandemic, we looked for ways to increase our online offerings to members — including education webinars — and the podcast was born from those efforts. The pandemic has sped up the push toward more web-based communication and interaction, and we hope to do more in that area as time goes on.

There have been 12 podcast episodes so far, and I hope you've been able to listen in. We've been on a bit of a hiatus for the summer and fall but hope to get back to recording soon. You can still listen to the previous episodes, though. Search for *Locksmith Talk With ALOA* on your favorite podcast service (Spotify, Apple Podcasts, etc.), or listen on Audible at https://adbl.co/3BG7xL2. If you want to suggest a topic, reach out to education@aloa.org.

Membership Benefits and Renewals

This year, ALOA has continued trying to minimize the impact of the pandemic on our members. While we had to temporarily go digital-only for the magazines in the latter part of 2020, we were able to bring those back to print in 2021. We also saw the return to holding the ALOA Convention & Security Expo this year, and what a success it was! Not only was it great to be able to see everyone in person again, but it also allowed ALOA to secure much-needed income. We are grateful for the improving economy and pandemic situation all over the world, and next year will hopefully be even better.

Despite the challenges of the past two years, ALOA SPAI has continued to serve its members and offer the benefits you have always received (plus new ones!). We've come to you in your homes and offices for education, offering webinars and adapting courses. We're continuing to add to our online offerings, so be sure to take a look at the calendar on ALOA.org to find out more and register. Contact education@aloa.org with your questions and suggestions. If you're interested in teaching a webinar, please get in touch as well.

By now, you've likely received your ALOA membership renewal materials. Please be sure to review and send in your renewals by December 31 to keep your membership active. You'll also see that there are add-ons available, including packages for additional educational opportunities such as webinars. You can renew online at aloa.org, or you can send in the paper forms if you'd prefer. If you have any questions, please feel free to reach out to us at membership@aloa.org. We are always here to address your questions, concerns and suggestions.

Included in your renewal packets are reminders of some of the benefits you receive, from free professional bonding and *Keynotes* magazine to discounts on education and FindALocksmith.com listings. One item I'd like to highlight again is access to health, vision, dental, life and other insurance programs through LIG. Right now, we are in the open enrollment period, so please take advantage of this affordable benefit! Contact Membership for any questions.

Please continue to stay safe as we wind down 2021. We've hopefully survived the worst, and we will all come out swinging in 2022. Here's to a great end of the year for everyone!

Mary A. May

Mary A. May
Executive Director
mary@aloa.org

ALOA

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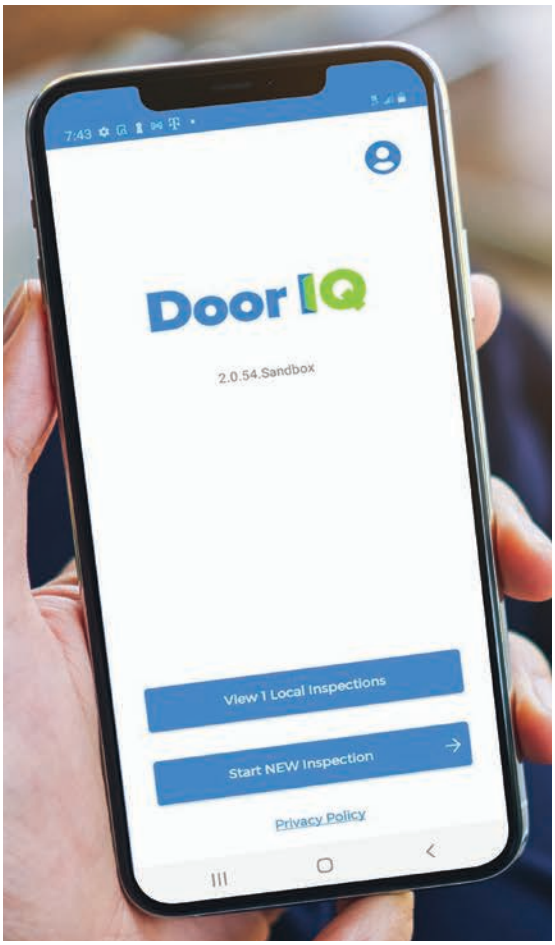
CLASSES: July 24-28, 2022
SECURITY EXPO: July 29-30, 2022

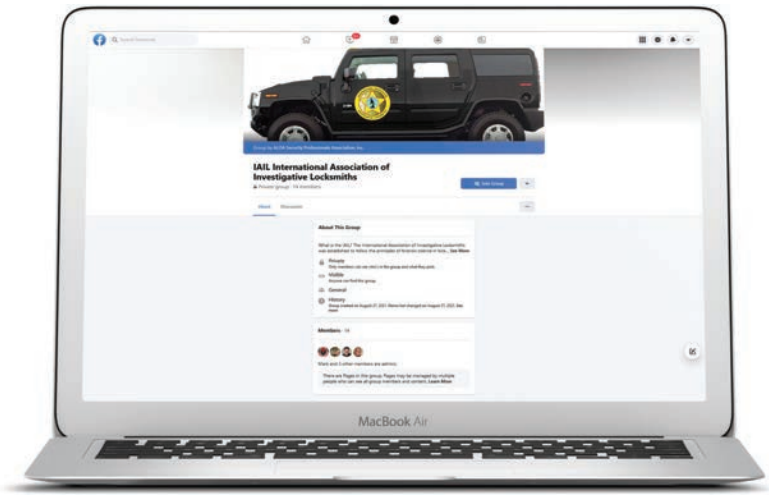


ALOA Partners With Facilities IQ

ALOA has formed a strategic partnership with FacilitiesIQ, the creators of DoorIQ, a new smartphone app for fire and automatic door inspections. Available for both Android and iOS devices, the app generates a digital and electronic inspection process and reports, replacing the cumbersome paper process. The professional PDF report can be customized with your company's logo and the ALOA seal.

If you register for DoorIQ using the link at https://bit.ly/DoorIQReg, FacilitiesIQ will credit you for your first five inspections, a value of $39.95. Once you register, you can download the app for free by searching for "DoorIQ" on the Google Play Store or Apple App Store.

For more information on Door IQ, see the Institutional Spotlight on page 26.



Join the IAIL Facebook Group

The International Association of Investigative Locksmiths (IAIL) has created a Facebook group for its members. You must "like" the ALOA Facebook page and be an IAIL member to join. The group allows members to discuss topics of interest, ask questions and more.

To join the group, visit https://bit.ly/3Ay4UK0. For questions, contact IAIL president Brian VanDenburgh at iailpresident@aloa.org.

ALOA Attendance at GPLA

ALOA once again had a great attendance at the Greater Philadelphia Locksmith Association (GPLA) convention, held September 24 and 25. This was GPLA's 72nd annual convention, and it was well attended. ALOA has always been a big supporter, and this year, current ALOA President Bill Mandlebaum, four past ALOA presidents, Executive Director Mary May and several board members were in attendance.

Awards for this year included:

- The Lee Rognan Award - Dan Billheimer (SAVTA board member) and Sven Hellwig
- The Gerald C. Connelly Jr. Award - Steve Goldstein
- The Hermann C. Henssler Jr. Award - Barry Wilensky
- The Philadelphia Award - Phil Shearer

Each year, ALOA holds a drawing at the GPLA Convention for a full education package for the ALOA Convention. This year, the winner was Ron Marcinkowski.

ALOA current and past board members and staff had a notable presence at this year's GLPA Convention.

Ron Marcinkowski won the drawing for a full registration package for the 2022 ALOA Convention in Las Vegas. Congratulations!

The theme for the Friday night party was "Circus." We're told this is perhaps the stunt double for Grizzly Adams, or perhaps the "Princess of Pennsauken" according to ALOA President Bill Mandlebaum. Others may know him as just AIL President John Truempy.

The tradeshow at the GPLA Convention had a packed floor.

The winners of the Lee Rognon Award were SAVTA Board Member Dan Billheimer (left) and Sven Hellwig (right).

PRODUCT BRIEFS

Capitol Industries recently introduced the EC731 electronic digital cabinet lock. It's available in both vertical and horizontal mount for both metal and wood applications. It offers an easy retrofit from all standard cam locks to a keyless, electronic push-button cam lock with the ability to switch between private and public modes. It has three levels of management and a mechanical key override, and no wiring is required. MSRP is $70.

Southern Lock is now stocking Original Lishi 2-In-1 picks and decoding tools, which combine the ability to pick and then decode the cut depths of conventional and vehicle locks. 100 2-In-1 Tools are currently available from LISHI. For the full list of what's in stock at Southern Lock, visit southernlock.com or call 800-282-2837.

Codelocks Inc. has expanded its KitLock range of products with a new slim keyless access control solution for storage cabinets and lockers. The KL1000 G3 is designed for workplaces, staff rooms, storage areas and gyms. It has a key override function, a front-accessed battery compartment and two finishes: silver chrome and black chrome. It has a 24-hour auto-unlock countdown timer in public function and up to 20 user codes in private function. It shares the same fastenings and door prep as the existing KL1000 and can be enhanced with the Codelocks Slam Latch for fast "push shut" closure. For more information, visit https://www.codelocks.us/g3-inc.

In Memory of Zack Gilmore

Zack Gilmore, founder and co-owner of Hollon Safe Company, has passed away at age 57. He founded the company in 2007 and was dedicated to producing quality, affordable safes in a family atmosphere. He received his bachelor's degree in communications from Texas Christian University and, as he used to say, it was the easiest subject for him since he loved to talk.

His wife Jessica, who co-owned Hollon Safe with Zack, will continue to operate Hollon Safe. If you would like to make a donation in his name please make it to the Corpus Christi Hope House at 3226 Reid Dr., Corpus Christi, TX 78404.

NEWS BRIEF

Autel has moved into its new Autel North America headquarters located at 36 Harbor Park Drive, Port Washington, NY 11050. Its customer service and tech support phone numbers will remain the same.

IN MEMORIAM

Billy J. Stratton Sr. of Lucas, TX, passed away on February 15 at the age of 85. He was a member of ALOA for 33 years.

Paul Andrew Badoni, 75, of Comins, MI, passed away October 8. He was the founder of Apex Lock and Safe Services.

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Chandler
- **Sean M. Estabrook**
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- **Herbert W. Bladorn**
  LockDoc
  Sponsor: Ralph O. Skytte, RL

Colton
- **Mary K. Dunsmore**
  So Cal Locksmith

Monterey Park
- **Kenneth W. Belcher**
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- **David Vanderlaan**
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Port St Lucie
- **Keith T. Zettler**
  KTZ Lock & Security Inc.
  Sponsor: Kevin R. Wilson, CML, CPS, CFL

LOUISIANA

Baton Rouge
- **Thomas B. Marion Jr.**
  Brunson Safe & Lock Co.

CANADA

Toronto, ON
- **Brandon Baum**
  Protection Plus Inc.

ALOA CERTIFICATIONS

AMKS
- **Ridhichai Tanchawal, AMKS**

CRL
- **Anthony J. Kowsky, CRL, CAL**
  Miramar, FL
- **George Wilson, CRL**
  Miramar, FL

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.

NOVEMBER

November 3-5
IML Expo Nevada
Orleans Hotel & Casino
Las Vegas, NV
imlss.com

November 17-18
ISC East
Javits Center
New York City
isceast.com

APRIL 2022

April 4-9
SAFETECH 2022
Griffin Gate Marriott
Lexington, KY
conventions@aloa.org or
(800) 532-2562

JULY 2022

July 24-30
ALOA Convention & Security Expo
SouthPoint Hotel & Casino
Las Vegas, NV
conventions@aloa.org or
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Experience Unbridled Spirits at SAFETECH 2022!

Save the dates of April 4-9 for SAFETECH.

SAFETECH is only five months away! Keep those dates saved and get ready to experience the unbridled spirits of safe techs from around the globe. After a two-year hiatus due to the pandemic, we're ready to put on the best SAFETECH convention ever.

Join us April 4-9 for five days of classes and the one-day tradeshow. SAFETECH is more than a convention; it's an intimate family-like gathering of the brightest minds in the safe and vault industry. This is a welcoming group and a great opportunity to make new connections, learn and try out some new products.

Location

We will be returning to the Griffin Gate Marriott, the venue for the last SAFETECH convention. This location provides convenient access to both downtown Lexington and the points of interest further north, such as the racetrack and stops on the Bourbon Trail.

The hotel has plenty of complimentary on-site self-parking available for hotel guests, and guest rooms have wireless internet access. For dining at the hotel, there is a Starbucks, a bistro and a restaurant on the golf course. Plenty of dining options are nearby, so go get some Lexington barbecue or a hot brown!

Classes

There are classes for everyone, from those with limited knowledge of safes to those advancing their knowledge to the highest levels. Come distill your knowledge to create high-octane earning potential!

More information on classes will be coming in the next couple of months, with topics covering everything from safe deposit locks to manipulation, electronic lock defeat and more. Keep an eye out for the registration brochure, and more details will be available on SAVTA.org as well. You can also email conventions@aloa.org to be kept in the loop for future communications. See you there!

SAFETECH 2022

April 4-9
Griffin Gate Marriott
Lexington, KY
Hotel rate: $129 plus tax
Room Block Cutoff: March 12

Modern Forensic Vehicle Investigations: More Than a Keyway

The world of forensic investigations involving vehicles has evolved beyond the vehicle keyway. Most manufacturers are moving closer each year to eliminating the mechanical ignition from their lineups of vehicles. In no way does this eliminate the need for a forensic vehicle investigation. Now, automotive locksmiths not only have to be skilled in traditional locksmithing, but they must be part computer programmer, engineer and hacker. The techniques require constant training to keep up with changes. When it comes to making vehicle keys, what was true yesterday may not be true today. As an investigator, it's important to keep up with the changes, equipment and techniques — especially if your primary job is not actually making automotive keys, but rather doing investigations.

Digital Information

Checking with a dealer service department if a key can be made only by a dealer is not recommended. Many manufacturer-trained technicians are clueless about the "other" methods out there. With larger storage chips, the digital information on keys becomes more and more valuable. Traditional key programmers may not show you all the information that's stored. You should be aware that some companies have special forensic viewer software for keys that show more data that's stored in the background. Sometimes it's possible to get VIN, date the key was used, vehicle mileage when last used, temperature outside the last time the key was used and mileage when the key was made. Some key programmers will reveal the VIN stored on the engine computer or other modules in the vehicle. Those VINs can be compared to the vehicle's VIN display or in stolen vehicle databases that can be searched for free on the NICB website at www.NICB.org. Other vehicles may have stored the electronic identification of the last key used to operate that vehicle in their computer.

Signs of Electronic Access

Understanding where the operating key identification is stored for a particular model vehicle is also very important. There may be physical signs left behind of possible electronic access to that data. These could include solder residue on certain points; conformal protective coating missing from the circuit board; evidence of a memory or other device having been removed from a circuit board and manually re-attached for possible reading; broken seals showing the module has been accessed; or wires with pogo pin indentations to tap into the vehicle's system.

The good news is that the more you learn about making car keys, the easier your investigations will be. In the near future, ALOA will be hosting more automotive training. It's my goal to add a day of vehicle forensic investigations to that training whenever possible for IAIL members to keep up with the most modern techniques of possible signs of bypass or surreptitious entry to the vehicle's security system.

One of the reasons I started the new IAIL member-only Facebook page was to share new things we are seeing in the field in real time. This will help us all grow as investigators. No matter your specialty or status working toward your CFL, join our page if you're on Facebook (you must first be part of the ALOA Facebook group to join). Share your findings and help us all grow together.

Brian VanDenburgh is the president of the International Association of Investigative Locksmiths (IAIL). He can be reached at 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.

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These TSRs are available by phone, email and even SECLOCK.com's live chat feature on both desktop and mobile. It's accessible on the bottom-right of any page; simply click the dark gray chat bubble to start a conversation immediately with one of the most knowledgeable reps in the industry. Once you're connected with a representative, you can send images and videos straight from your device, view any product or part that a TSR shares, and more, all through SECLOCK.com's chat window.

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I Need a Drill Point

Richard Vigue provides a primer for the novice safe tech.

"I need a drill point." This is a request often posted on various forums by new safe techs and, yes, sometimes even seasoned veterans about safe work. My response is 1" out from dial center at 92. It will work for many safes, as many safes will have an S&G 6730-style lock. This request needs much more information before others can give proper points to drill or other means of opening. The most difficult thing to do is give details before getting input. Locksmiths find it difficult to post anything about the container. This comes from years of keeping information secret, as old-timers did not want to divulge anything that may put another locksmith ahead of them. Times have changed, and now information is freely passed from person to person, so mindsets need changing for those who ask but do not give back.

So how should someone get ready to make this request? Well, first you need to gather as much information as possible. The excuse that you are not able to get to the safe is invalid. All you can get from a customer-supplied picture is an educated guess of brand of container and some ideas of what might be inside. If the customer does not want to pay for the trip, then they need to make an appointment to bring it to the shop so you can do it on premise. Then you'll be able to give a quote from information you can gather in just a few minutes.

OK, what information do you need? Well, first you will need some tools: an amplifier to listen for faint sounds as you search for clues and a quality phone or camera to take pictures of different parts of the container. You definitely need to be adept at sizing the pictures, as some forums such as ClearStar want pictures fewer than 800 KB. You can check on the size easily by right-clicking on the picture as it sits on your computer desktop. You will get a pull-down menu, and the bottom item is "properties." Clicking on that will reveal both the type and size of file. If it is not a JPEG, right-click on the picture and the menu will have "edit" as a choice. Click on it, and the top left has "file" as an option. When you click on it, hit "save as" and choose JPEG, and the top right has "exit." It will ask you if you want to save it, and answer yes.

Gathering Information

Now, with this arsenal, you can gather information about the safe that needs to be opened. First, turn the dial to see how well it is working and adjust as best you can. Then, turn the bolt control handle (BCH) to try to retract the bolts. If it is a direct entry similar to a Sentry-type safe, the dial will bind. This is your first piece of information. If it's not a direct drive, the next step is to put the amplifier on the safe and listen really closely for the sound of a gear. The more you do this, the easier it will be to recognize. As you become more adept, these two steps will take less than a minute. If you hear or don't hear a gear drive, this is the second piece of information.

Now, the next step also requires the amplifier until you are more experienced. Turn the dial left five full turns, and stop at 50. Now go right to zero and listen for and feel the contact points. An S&G should sound and feel the points at around 6 and 14. These are our next two pieces of information. Now we need a wheel count, so continue slowly left until you get to 40 and continue quickly left to about 60. You should hear a click as the first wheel passes under 50. Now continue left to 40 and again quickly to 60, and you will pick up wheel two. Continue until you have the wheel count. Now you know if this is a 3- or 4-wheel lock.

Time for Photos

It is now time for pictures of the safe. I have chosen a Diebold antique safe to demonstrate what you need to provide. First, get a clear picture of the full front view of the safe (see *Figure 1*). Next, you want to see the BCH (*Figure 2*). Then take a very clear picture of the dial so that any information can be readily seen (*Figures 3 and 4*). *Figure 4* provides a slightly better view. Get a little closer for more detail. If you are having problems because of a lack of illumination, get a large clamp-on or floor stand flood bulb and aim it at a

Figure 1. The first photo you should take is the full front view of the safe.

Figure 2. Next, take a photo of the BCH.

Figures 3 and 4. Make sure the photo of the dial is clear so that any information can be readily seen.

Figure 5. A photo of the caster wheel and skirt can help identify the safe.

Figure 6. Be sure to get a close-up view of one of the hinges.

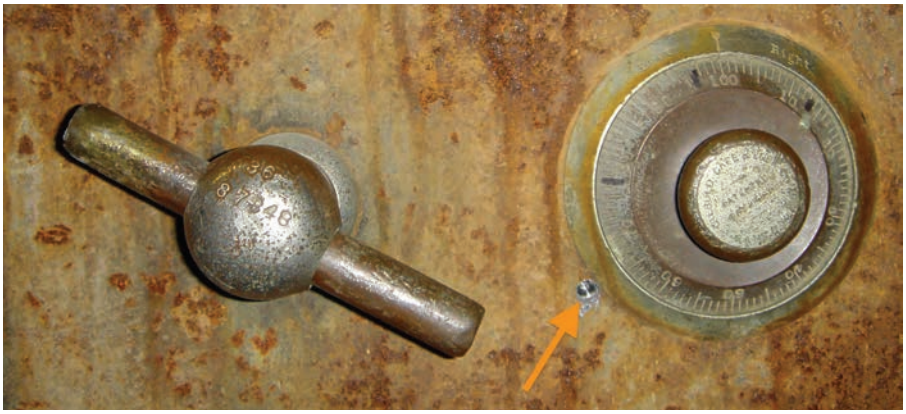

Figure 7. It's nice to get a picture of dial and BCH, but it's more helpful when you include a ruler for viewing size.

Figure 8. The drill location is shown.

wall behind the safe to eliminate glares, and it should give ample light for your photos. If you are adept, you can adjust the ISO and F stop settings on your camera for better images.

Next, get a picture of the caster wheel and skirt (*Figure 5*), as it aids in identifying the safe via a database. This brings up a good point about databases. You need to place all this information in a file and start saving it permanently. Two reasons are you may need to open this same safe later on, and this information can also be used to help others.

My files are about 50 gigabytes in size. I have three OTG external USB drives. I store information on my computer as I add other safes as I find them and also on the three external drives. I have been updating this file for almost four years, and it's a work in progress that I would not want to lose.

You are amassing a good amount of information on this safe, so let's continue. Get a close-up view of one of the hinges (*Figure 6*). A picture of dial and BCH is nice (*Figure 7*), but the picture would be more informative if a ruler was included. That way, the distance between the dial center and BCH center would be shown, and that can help eliminate some locks due to size.

Time for Your Request

Now, with all this information, post and ask for a drill point. *Figure 8* shows where the safe has been drilled based on information from other safe techs so that a scope can be used to determine the numbers that will open the lock. Once you open using that particular drill point and transfer numbers to drop in, you can take what is called a victory shot. You can see the drill sticking out at bottom of lock case (*Figure 9*). This is a safe place, as it did not hit any components inside the lock. *Figure 10* shows an alternate method of drilling. It must be very accurate, but a scope in this hole will allow you to dial at the drop-in point and open the lock after you remove your expensive scope.

In *Figure 11*, the ID of the lock is shown as a Diebold/Eagle #161 lock. If I knew this before I drilled the hole, I would have used Ed Willis's illustrated locks book. I would have printed a copy of the lock and mounted it as best I could. Then I would have seen exactly where to drill, as these are X-ray drawings that you view as if the door was made of glass. It makes drilling a no-brainer for everybody.

Figure 9. The drill is sticking out at bottom of lock case.

Figure 10. This photo shows an alternate method of drilling.

Figure 11. The lock bolt is retracted.

Figure 12. This image shows the direct-entry style of lock.

Now, all this information is saved in your ever-expanding database. Next comes the courtesy of showing the information to others now that the safe is open. So many ask for assistance but don't have the courtesy of a reply and thank you after the job is done.

Here are a few different safe locks to show how some are made. *Figure 12* is showing the direct-entry style of lock. You can see that if you turn the BCH, the dial will bind. With practice, manipulation is fairly easy. *Figure 13* shows the nose riding on top of the wheels. You will see this

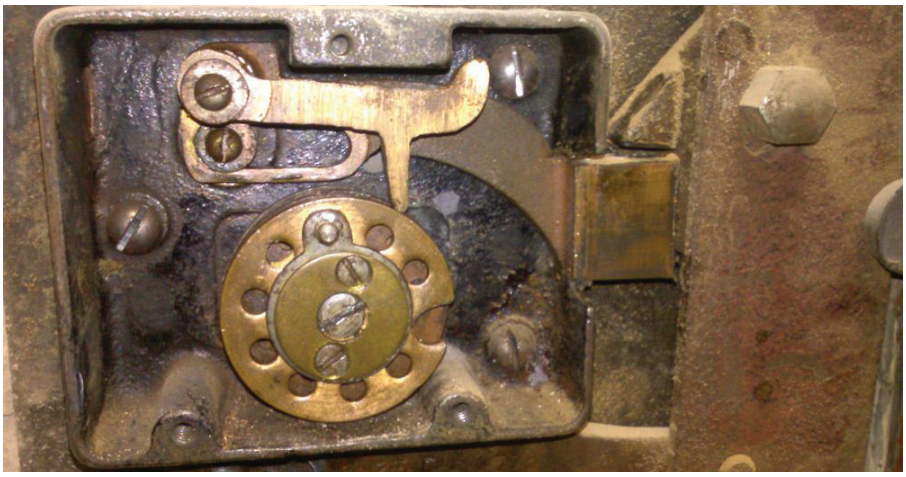

Figure 13. The nose is riding on top of the wheels.

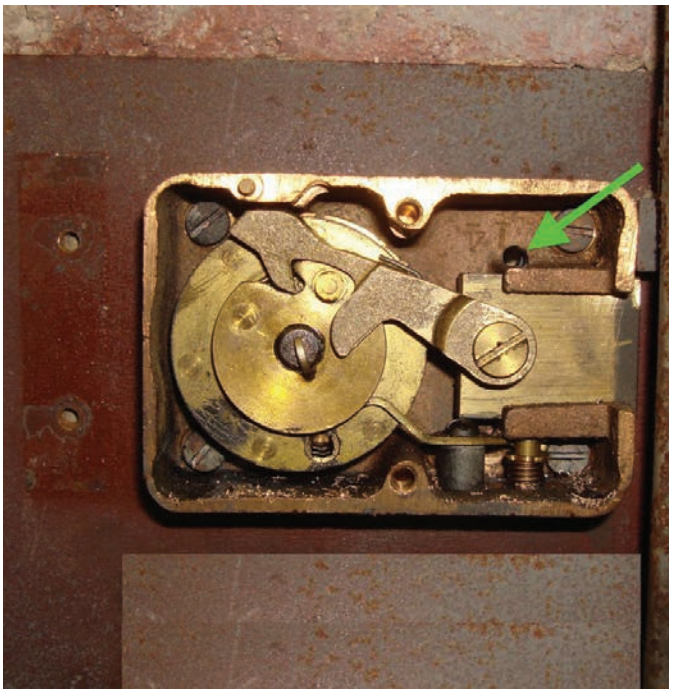

Figure 14. This photo shows an M6730.

Figure 15. A Yale OB-style lock is shown.

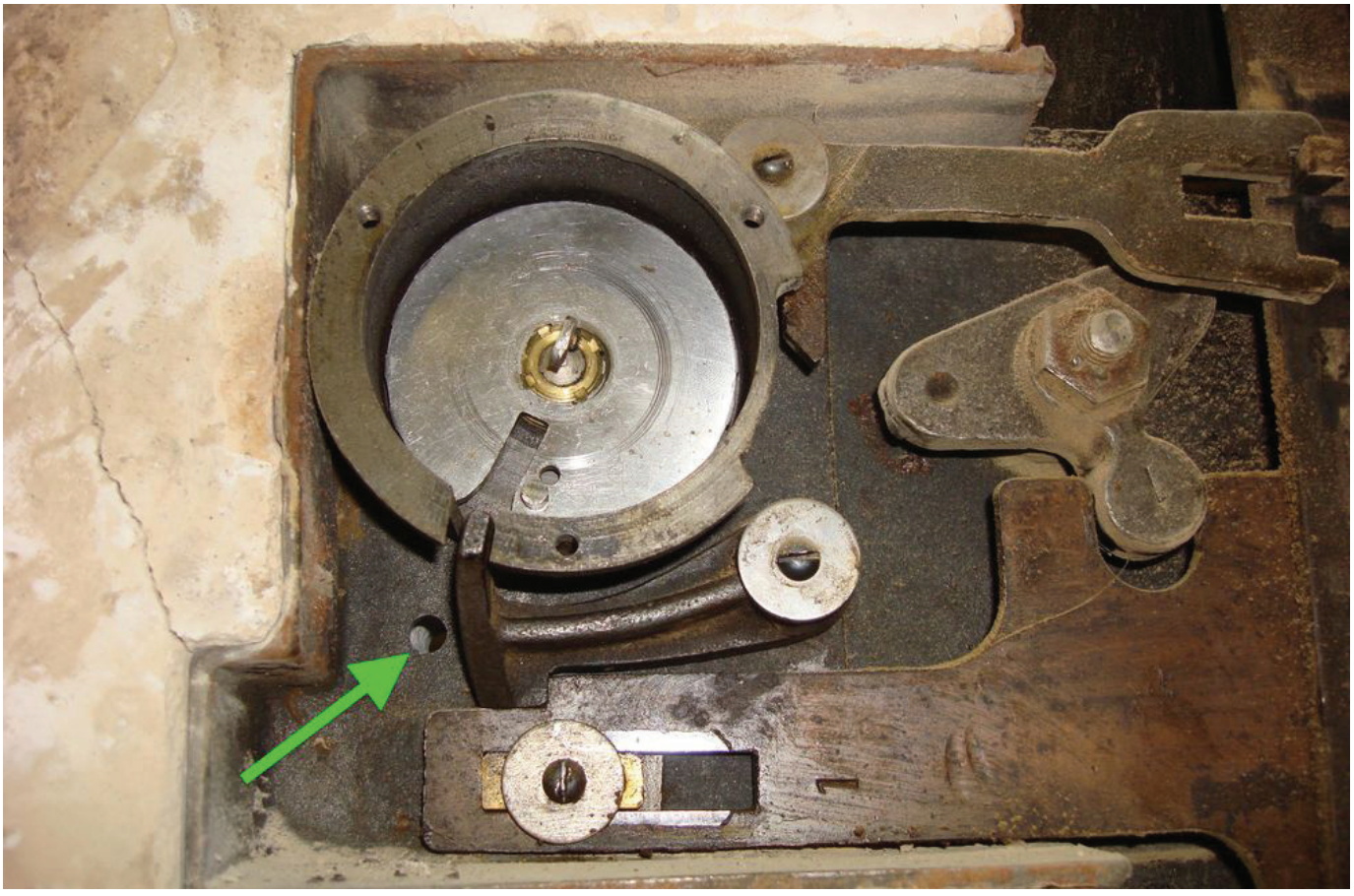

Figure 16. The hole allows viewing the gates, and gravity allows the lever to drop in.

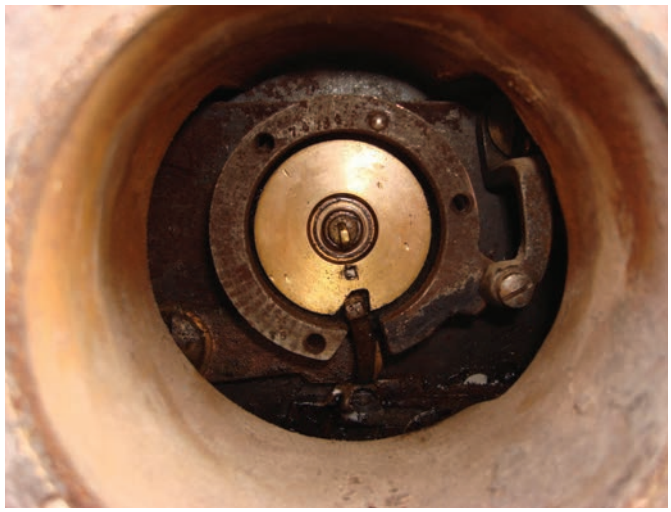

Figure 17. The HE lock is shown.

Figure 18. An OB lock is shown.

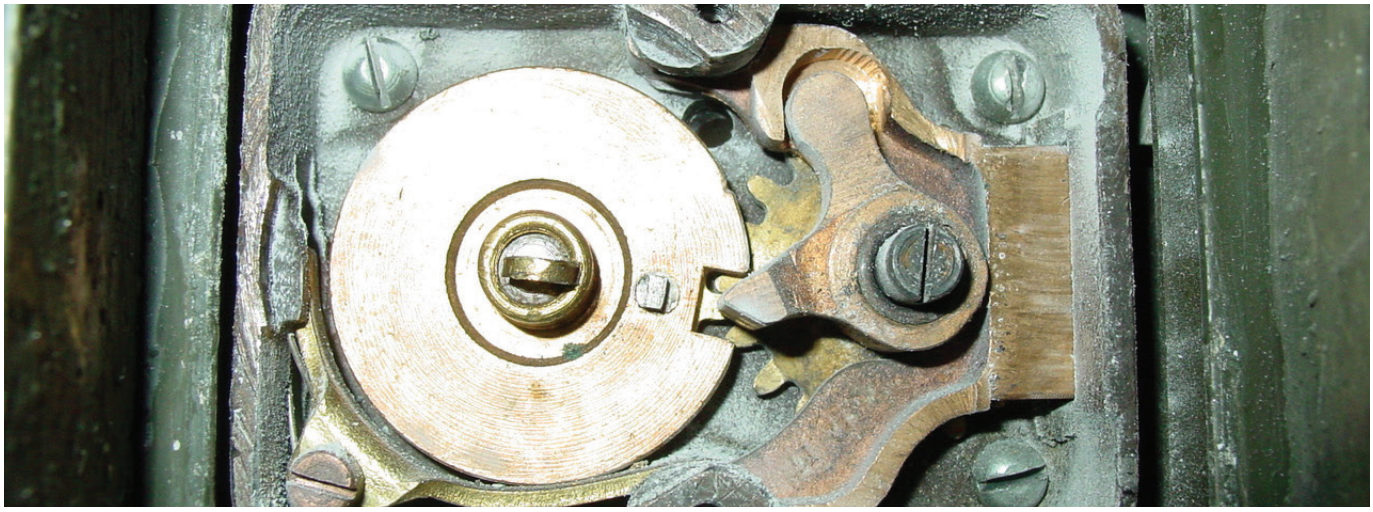

Figure 19. Pictured is an OC5.

on many locks, but mostly on Victor safes. Some have a BCH, and others have the "wing" as part of the dial. This is another one that is easy to manipulate as well as try out combinations on from the orange HPC Inc. Safe and Vault Manual. *Figure 14* shows an M6730, and you can see that the observation hole came very close to the bolt — but it was a great place to view the drop-in point with a 70-degree scope. Next is a Yale OB-style lock (*Figure 15*). The best place to drill is around 50. Hit the open area to line up the wheels so that gravity will allow the fence to enter the wheel pack. That stops it from blocking the BCH.

A similar lock called the "K" lock is in *Figure 16*. Notice the hole that allows viewing the gates, and gravity allows the lever to drop in.

The last three have a way of ID'ing that may help if you're on the outside looking in. First is the HE lock in *Figure 17*. If you put pressure on the BCH, the contact points will show up by the feel of them bumping. It also works well on an OB lock (*Figure 18*) as long as you put a lot of pressure on the BCH. The last one is an OC5 (*Figure 19*). It is a geared friction fence lock. By turning CCW, you should feel and hear one contact point between 95 and 10. This should walk you through most items that will identify what you have.

Finding the Drill Point

Now what would be the drill point for this old Diebold safe? You put pressure on the handle and found it is not a direct entry. You listened for a gear and did not hear any. You checked for contacts and found 6 and 15, and it has three wheels. You took some pictures of the safe but forgot to take a dial-to-BCH measurement.

Now you can post that for a drill point and probably get a few choices for drilling.

This makes it easier for more experienced people to find what you need, and they are more likely to help you out.

Now, finally, it is imperative that you post the opening after the job is done. I know you want to run to the next job, but courtesy says to show your final pictures to those who took the time to pass on the quality information for you.

Opening the Container

Now for tools needed to open the container: First, we need our eyes and fingers to manipulate the lock and open it. Not good at manipulating? Well, it's time to take a few classes and practice with a cutaway lock until you understand how it's done.

If manipulating does not work for you, then you need the lock ID and drill point to get it open. A battery drill and carbide drill bits of your choice and different length and size (6", 8" and 12") is a start. Normal sizes carried are ⅛", 3⁄16", ¼", 5⁄16" and ⅜". Also, have a quantity of each, as you don't want to go back because you have run out of bits. A lever rig and a magnetic base rig are the best choices for starting up. Add a vacuum rig later as need arises. It will work on surfaces that are not magnetic like some of the higher-grade units and vault doors.

Looking Inside

Now that you've drilled a hole, you need to see inside the lock. You will need a few different scopes: a 30-degree that sees a little to the side, a 70-degree for a larger side view, a 90-degree used to view change key hole and a 0-degree, which looks straight ahead. The 90-degree is for manipulating from a mechanical lock CKH and is usually used if the lock has glass that would trip relockers. This is a great bypass method. Different lengths and diameters are available. The first one you will want is a 0 at 7" long. The diameter will be either 2.4 mm or 4 mm, depending on whether you want to microdrill using a ⅛" bit or ¼" for the 4 mm scope that puts more light inside the lock. Your light source should be a variable-intensity to eliminate reflections from cutting down what you can see.

Now, when you look inside, it's just a matter of dialing the gates under the lever arm and opening the lock. Make sure you remove your expensive scope before retracting the bolt or opening the door, or you will lose all the profit you made on the safe. Now what if you look inside and you don't see the fence? You don't need to drill another hole. Just align the gates at your hole and record the numbers, then transfer them to where you think the fence is actually located. If you don't know how to transfer, there are quite a few articles explaining it. And, again: practice, practice, practice. As a starting safe tech, count on spending at least $10,000 on basic equipment to open safes easily. Otherwise, you'll be spending so much time that it won't be profitable.

This article doesn't answer all questions you might have, but it's a good start. I hope this is a good primer for you on safe opening.

Special thanks to Dave McOmie for some of the photos and his help with the text.

Richard Vigue started locksmithing in 1969 after someone stole his truck and set fire to it. He started with alarms from Radar Sentry in Michigan and took all the classes he could find for locks and safes. He semi-retired in 2005 but is still working and taking classes as well as acting as an adjunct teacher at a local college.

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How to Get a Legislative Bill Killed

Take these steps to fight local legislation that threatens our industry. **By Bill Mandlebaum, CML, ALOA President**

Is there another organization trying to pass a bill through your state or local government that might take away your business? Do you want to try to stop this bill but don't know how without hiring an expensive lobbyist? What should you do if you find one of these bills in your backyard? While many bills related to our industry have been good, there has been almost NO enforcement. Thus they just become a tax on the locksmiths who want to operate legally.

Let me give you some ideas. First, do not go in being confrontational from the start. A little bit of sweetness can get a lot more accomplished than arguing. If reasonable conversation does not work, *then* go for the throat. We've had legislative people tell us not to mess with them, as they knew how the government worked, and they could get any bill passed. That bill lasted *one* reading and was never seen again. If you do it right, it can be done.

"Remember that you are dealing with state government. They wear coats and ties."

Steps to Take

First, read the bill carefully. Look for loopholes. When the alarm industry tried to get all low-voltage and access control put under them in Ohio, we told them that we would get ourselves exempted out of it immediately. They said, "No way." We pointed out to them that they had exempted general contractors (as they did not want to fight them). In the Ohio Revised Code, there is no definition of what a general contractor

is. Thus, all we had to do (if this bill passed) was print up some business cards identifying ourselves as general contractors and keep on doing business as usual.

Next, we went to our local sheriffs. We told them that if this bill passed, they would have to hire a licensed electrician to repair all their computers (911) and cell phones. They could no longer use whom they wanted to. Several sheriffs called the state attorney general and asked what was going on. She called the representative who was sponsoring the bill and asked why the sheriffs were calling her upset. Major embarrassment.

Then we called several Toyota dealers. They were gun-shy ever since the Prius came out. Shortly after it hit the dealers, a union representative came around and told them they had to have an electrician on duty at all times in case a Prius came in. The Prius is more than 24 volts under the hood, and thus you had to be a licensed electrician under current state law to work on it. They managed to get themselves exempted from the state code, but it took some time and a lot of lobbying. We told them that the key and fob were access control, and they promptly got a hold of their lobbyist in Columbus to find out what was going on and protect themselves from this proposed bill.

"First, read the bill carefully. Look for loopholes."

Then, we went to the cable TV companies. They were not interested since they were not doing any home alarm systems (at that time). When we told them that the telephone companies were exempted under this bill, they immediately smelled a rat and called their lobbyist.

Some Warnings

This will give you some ideas that you can start with to try to get a bill modified or killed. Remember that you are dealing with state government. They wear coats and ties. Do *not* go into a committee meeting in jeans and a T-shirt; this ruins any message that you are trying to get across. I watched a locksmith go into a committee meeting here in Ohio and testify wearing jeans, a dirty shirt and a *huge* ring of keys on his belt. You could see the legislators tuning him out before he even got started. He knew what he was talking about but never got the chance to present it. Because of that, the bill he was testifying in favor of did not get a second reading. Also, if you are trying to get a bill passed, never say that it's to protect your organization or prevent another organization from taking a particular action. The bills are all for the good of the voters, and that is what the legislators want to hear.

If you have questions about legislation in your local city or state, please reach out to membership@aloa.org. ALOA has an active legislative presence, and it's possible the bill is already on our radar. Together, we can fight unjust proposed legislation.

Bill Mandlebaum, CML, is the president of ALOA SPAI. You can reach him at president@aloa.org.

Facilities IQ: Put Your Facility's Doors on "Report!"

ALOA has a new partnership with Facilities IQ for special pricing for its Door IQ product. **By Tom Foxwell Sr., CFDI, RL, CAI, and Vernon Kelley, CFDI, CFL, CMIL, CPL, ICML, IFDI, LSFDI**

One of the most challenging and time-consuming aspects of being an ALOA Fire Door Inspector (AFDI) or an AIL Life Safety & Fire Door inspector (LSFDI) is documenting your inspection process and subsequent findings. Now there is a solution for the fire door inspector that will drastically reduce your reliance on paper forms by using an app on your phone or tablet. Inspectors, it's time to go digital!

Facilities IQ recently introduced new software, Door IQ, that can precisely record all your fire door assembly findings. And for those of you who also inspect automatic power door operators, Door IQ can help manage that cumbersome task, too.

For the fire door inspector, Door IQ can report and track the findings of each fire door at your facility, including photos of any noncompliant issues discovered during the inspection process. Door IQ follows the 13-step fire door inspection process outlined in *NFPA 80 Standard for Fire Doors and Other Opening Protectives*. Once your report is complete, it can be emailed as a

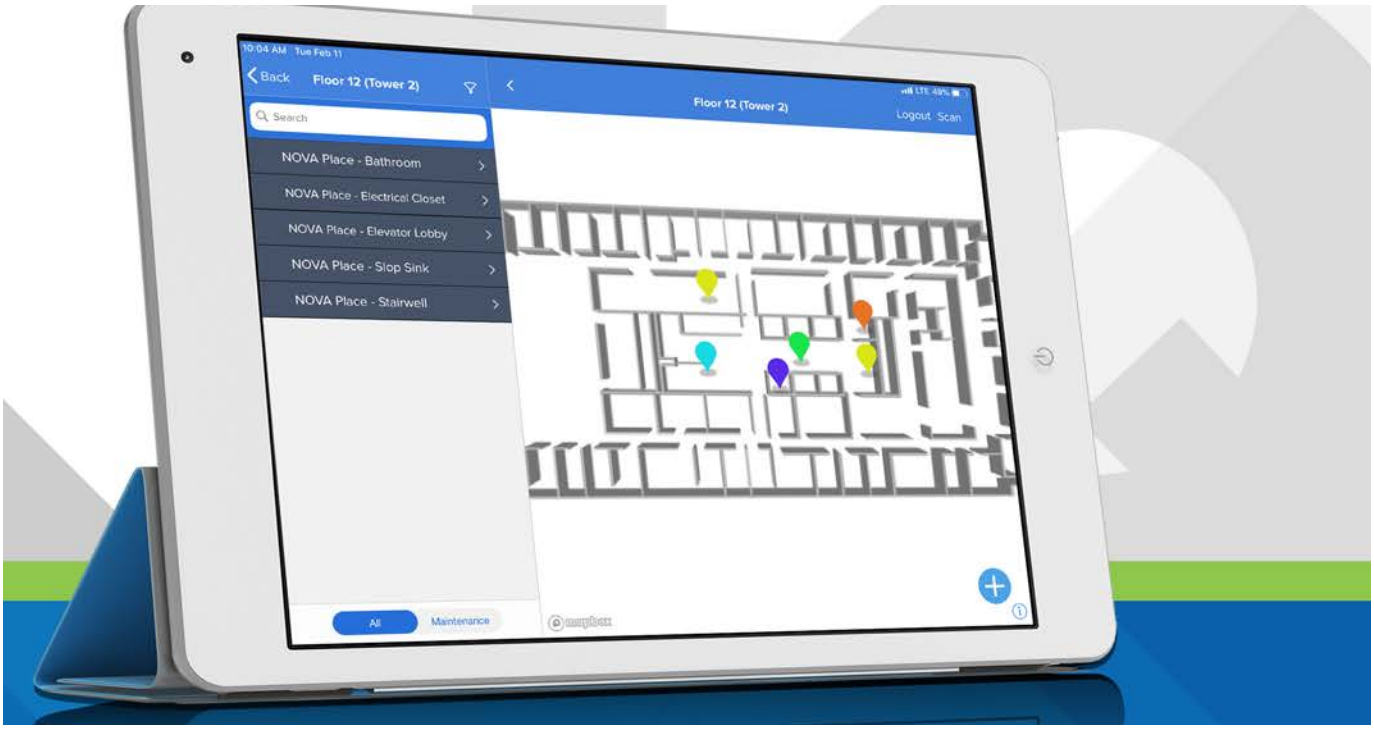

Figure 1. ALOA is pleased to announce a strategic partnership between ALOA SPAI and Facilities IQ that allows for special pricing for new users.

PDF to up to 10 people. You can also customize your reports with your company or facility logo as well as the ALOA logo.

For those who inspect automatic power door operators, Door IQ also has a reporting system for you. This report follows the inspection guidelines established by the American Association of Automatic Door Manufacturers, more commonly known as AAADM.

AAADM outlines two types of safety inspections: daily and annual. Both types of inspections can be accomplished using Door IQ, which provides a reporting vehicle covering all the recommended procedures for each type of inspection.

As an extra measure of protection, as well as easy of accessibility to the information related to your inspections, all reports are securely stored on Facilities IQ servers.

New Tools

Speaking of automatic door operators, Facilities IQ is developing a sensor to install on automatic operators to detect erratic door movement as well as drastic temperature changes within the unit. This sensor will trigger an alarm to advise you of potential problems with a malfunctioning operator.

Facilities IQ is also developing a tool that can produce a map of every door in your facility and keep track of when the door was visited for preventative maintenance, inspection or service.

Pricing

For Door IQ's most basic reporting method, there is a one-time fee applied as each door is inspected, regardless of the type of inspection you're performing. You can then reinspect any specific door as many times as needed within 30 days of the initial inspection for that price. Keep in mind that this requires you to have a unique identification number for each door in your facility requiring some sort of inspection, but you'll need to do that for fire door assemblies anyway since it's a requirement outlined in NFPA 80. You're knocking two items off your inspection "to-do" list.

For larger institutions, Facilities IQ has different pricing structures that may afford your facility a more economical record-keeping solution.

ALOA and Facilities IQ Partnership

ALOA is pleased to announce a strategic partnership between ALOA SPAI and Facilities IQ, the creators of Door IQ. We're so impressed with Door IQ's functionality and benefits that we recommend its

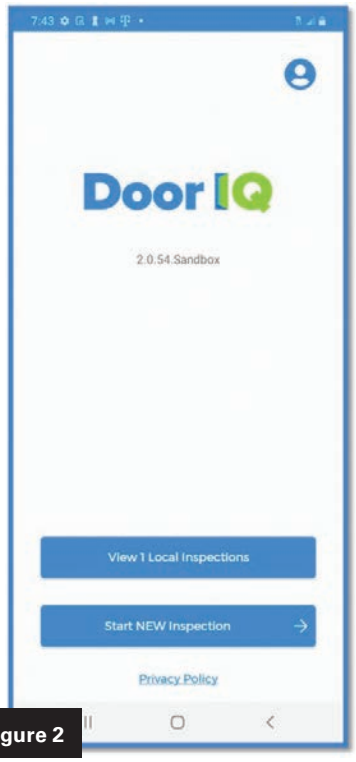

Figure 2

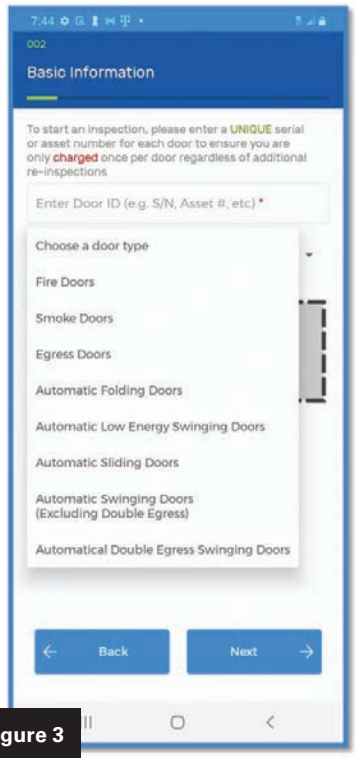

Figure 3

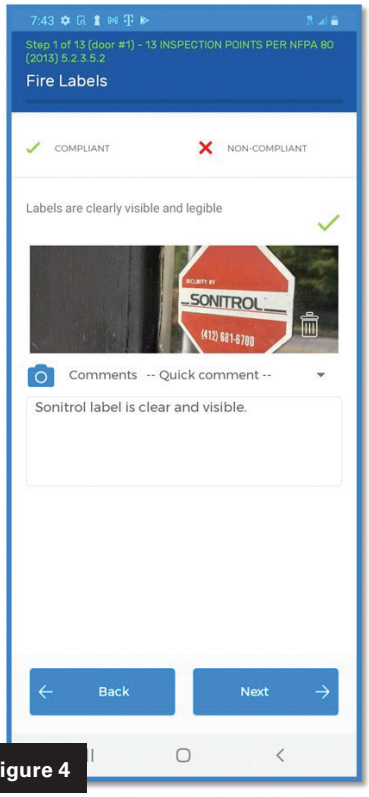

Figure 4

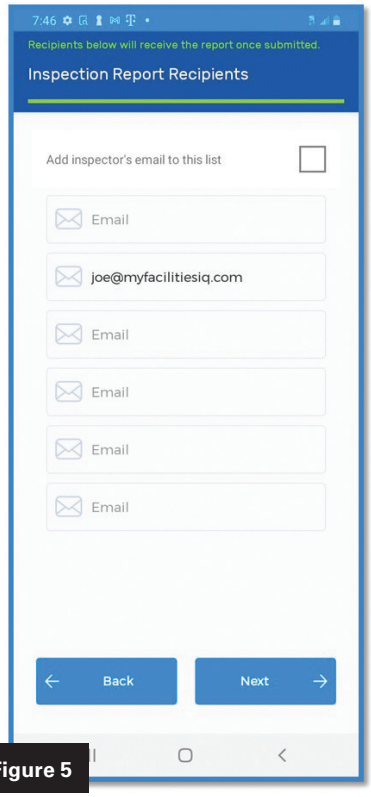

Figure 5

Figures 2-5. Door IQ follows the 13-step fire door inspection process outlined in *NFPA 80 Standard for Fire Doors and Other Opening Protectives,* and reports can be emailed to up to 10 people.

use for all ALOA certified fire and automatic door inspections!

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For more information, visit myfacilitesIQ.com. Door IQ can be a helpful tool for the digital reporting of your facility's door fire safety and automatic operator opening assets.

Tom Foxwell Sr., CFDI, RL, CAI, started working in the locksmith industry in 1965. He's a past ALOA president and a certified instructor for Kaba Access, Kaba Unican, ASSA High Security, Securitron and HES, and is a state-certified instructor in both NJ and VA. He passed the ALOA Ace Instructors class in 2000 and designed and wrote an eight-hour class, "The Electronic Locksmith."

Vernon Kelley, CFDI, CFL, CMIL, CPL, ICML, IFDI, LSFDI, has been involved in the locksmith and security industry since 1989 and is a licensed locksmith in the state of New Jersey. A noted instructor and editor, he's co-author of the book Institutional Lock Shop Management. Vernon has served on the ALOA board of directors, and he is currently the first trustee of ALOA Institutional Locksmiths and director for the ALOA Scholarship Foundation. He is a recipient of the prestigious Lee Rognon Award as well as the Robert Gress Award. Vernon is the supervisor of access control at The College of New Jersey.

From Coin Collector to Master Locksmith

Tom Gillespie, CML, CIL, CCL, recounts his story of becoming a locksmith and growing in his career.

I was a coin collector... no, not that kind. I worked for Illinois Bell Telephone Company right out of high school in 1966. I collected money from pay phones and serviced phone booths. In the Central Illinois region, there were six major areas (all of central Illinois from East St. Louis up to Springfield, Peoria and Champaign-Urbana), with one man assigned to each. He had to know the location of every pay phone in that area.

I was the "swing man" who had to cover the routes for the six other collectors in our region when they were on vacation, got promoted or were off for the day. I had to know the location of every pay phone in all of the cities in each area.

Each day, we'd get a stack of 80-120 IBM punch cards with a phone number, address and key number. A large BEST padlock with a flexible cable shackle held the keys in alphanumerical order. Each stop could have one or multiple coin boxes to collect. In Peoria, one week each month was devoted to Caterpillar. At one Caterpillar stop, there could easily be 30 pay phones lined up along a hallway. If a pay phone was occupied with a customer, we had to wait until the person finished the conversation. The basic job was to drive to the location, open the lock and swap out the moneyboxes.

The old pay phones had the key for the lockbox on the front of the phone (see *Figure 1*). People would stick things (gum, paper clips, toothpicks, etc.) in the lock keyway while they were talking on the phone. When we went to collect the coins, if the key wouldn't work, we'd call the local locksmith, who would meet us and drill out the lock. I got to know eight locksmiths in those areas and became good friends with most of them. They'd show me how they did what they did. Sometimes, they'd invite me back to their shop behind the counter. I was hooked.

Retail Locksmithing

In 1969, I quit Illinois Bell and went to work for A-1 Lock, the local locksmith here in Springfield. By the mid-'70s, I'd figured out it would be more fun to make keys in the sand at the beach than in the snow. Listening to too many Beach Boys songs meant I headed West and was soon 'smithing in Southern California.

After working for Irvine Lock & Safe for a while — which later became Airport Lock & Safe — in Newport Beach, I was brought in as a partner. Our bright orange trucks and paint scheme set us apart from the other locksmiths (*Figures 2 and 3*).

We were surrounded by tremendous growth. Dozens of new office buildings were popping up, and a ton of automotive work was available. We did a ton of work on Mercedes, Lamborghini, Maserati, Ferrari and Rolls Royce models as well as the basic BMW and other makes. In the early '80s, we were the only shop between Los Angeles and San Diego with the ability to do "sidewinder" keys with our HPC TEN, a private-labeled Silca high-security key machine.

When the Newport Beach Mercedes dealer needed car lock repairs, we got the job. Their runner would bring in a dull/pitted set of door, glove box and trunk locks out of a customer's car, with an existing key. He also brought a shiny new set of locks that he wanted set to the customer's key. He'd pick up the new locks, and we got to keep all the leftovers. I built a great service kit with a collection of lock bodies, factory cut keys, 2-track and 4-track tumblers, springs, microswitches, tiny ball bearings, cams, tailpieces, etc.

For 15 years, I was very involved in all phases of the California Locksmith Association, including serving as Orange County President. I passed my ALOA

"After the wholesale distribution and manufacturing side of our industry, it was actually fun and relaxing to get my hands back on the hardware every day."

RL testing on the Queen Mary during the onboard CLA convention in 1986. In 1988, I received my CPL status after testing at the ALOA convention.

Schooling Others

Because there was always a shortage of new candidates for a locksmith position in Orange County, a colleague and I formed a locksmith training program, The School of Lock Technology. The goal was to have a ready pool of potential apprentices. I wrote and developed a 15-week hands-on course that met two evenings and on Saturdays every week. We trained people how to become viable apprentice locksmiths. We taught the basics of key identification, key machine usage and adjustment, basic rekeying and lock repair. We did deadbolt installations, shimming and basic picking techniques, etc.

Part of the final exam was reassembling the paper bag full of mortise lock parts (plus a couple extra parts for fun). Some graduates went on to work in one of our shops or for other Orange County locksmiths, and a few went into institutional lock positions.

Figure 1. The author's introduction to locks began when he worked as a coin collector for a telephone company, collecting coins from payphones such as this one.

Figure 2

Distribution

By 1990, I had the chance to transition into wholesale distribution at American Lock & Supply in Anaheim. I was the sales administrator and oversaw inside sales, customer service, will call and the internal lock shop. I also visited various American branches, teaching electronic access classes to customers and employees. I achieved my CML certification during that time.

Manufacturing

Having experienced the retail and distribution side of our industry, I kept going. In 1992 I joined up with Adam Weinstein, a locksmith friend who'd started a little company called PRO-LOK. We made car opening tools and other locksmith service

Figure 3

Figures 2 and 3. Gillespie worked for some time as a partner at Irvine Lock & Safe, which was known for its bright orange color scheme.

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equipment. I wrote annual updates to our car opening manuals by taking apart dozens of new models at the local dealers and developing measurement and color photos showing contact points and tool usage. I also worked with Toyota R&D and Honda R&D in Los Angeles to discover opening methods for new models before they were released. The PRO-LOK KeyMaster Punch was joined by the Blue Punch key machine and expanded the business greatly.

In addition to teaching at the *Locksmith Ledger* LedgerWorld shows, I taught new car opening seminars at trade shows all over the U.S. and Canada, and in a few instances I taught some government agents surreptitious auto entry methods. At that time, we had about 400 slides that detailed various tools, interior door components and specific areas to avoid to prevent your tools from causing damage. From local locksmith associations to distributor trade shows, ALOA, Yankee, LedgerWorld trainings and more, I was there.

Back to Distribution

In 1998, after 25 years in Southern California, it was time to get out. I moved back home to Illinois and hooked up with Clark Security Products as an outside sales rep based at the Chicago branch. I covered most of Illinois, Iowa, Indiana and Missouri. I taught master keying seminars at different Clark tradeshows, LedgerWorld shows and ALOA Conventions. I received my CIL rating and worked closely with the Great Lakes Chapter of the Institutional Locksmith Association.

Back to Retail Locksmithing

In 2010, I retired… sort of. I stopped in to see a former locksmith I'd called on here in town. He needed some part-time help, and I jumped at it. After the wholesale distribution and manufacturing side of our industry, it was actually fun and relaxing to get my hands back on the hardware every day.

"I recently had my 10-year anniversary at Starfleet Lock & Safe, and I'm still having fun."

I recently had my 10-year anniversary at Starfleet Lock & Safe, and I'm still having fun. We focus on commercial, industrial and banking customers and sell, deliver, open and repair safes and vaults. I do most bench work and develop and maintain large master key systems. We dropped all automotive work years ago and no longer do auto or home lockouts.

Industry Changes

The automotive side is a completely different animal than it used to be. We've gone from opening cars by manipulating the vent window lock or simply wiggling a Slim Jim in the door to automatic relocking, side-milled, dead-bolting locks and a prodigious use of airbags, onboard computers and passive, keyless auto locks.

In my years in this industry, we've gone from dozens of different lock manufacturers to relatively few megabrands. I preferred the distinct differences of manufacturers to the homogenized similarity of many current lock products. In the '70s, offshore lock products were frowned upon… we'd simply use the "real" thing. Today, the vast majority of security hardware is offshore. Times change.

Articles

Starting in 1992, I wrote an article series for *The Professional Locksmith* magazine. It started me on a path to write for *Locksmith Ledger* for 20 years. I've also written for *The National Locksmith, Reed's Security Reporter,* a Canadian Locksmith magazine and a few other publications. In 2010, I started writing for *Keynotes* and *Safe & Vault Technology* magazines and continue to do so (as you probably realize if you're reading this).

Conclusions

I've been very fortunate in my 52-year career in this industry. I've been blessed to achieve many of the goals I've reached for, and I've had more than my share of failures or disappointments (usually my own fault). I've made and lost a lot of good friends and mentors, most recently Gale Johnson, the long-time editor of *Locksmith Ledger.*

I've loved being a part of this chosen profession, and I'm fortunate to have worked for and with a number of great companies and people. I plan on continuing doing what I'm doing as long as the good Lord allows me to mentally and physically remain active.

I'd like to thank all of the friends and colleagues I've made over the years for making this journey through the world of locksmithing so memorable.

Tom Gillespie, CML, CIL, CCL, is a 52-year veteran of the security industry. Since 1969, he has expanded his experience in the retail, manufacturing and distribution segments of our industry. Tom has taught educational seminars throughout the U.S. and Canada. He has authored numerous books, newsletters and articles for security industry publications. He is semi-retired but is still active in locksmithing. Tom can be reached at tomxgillespie@gmail.com.

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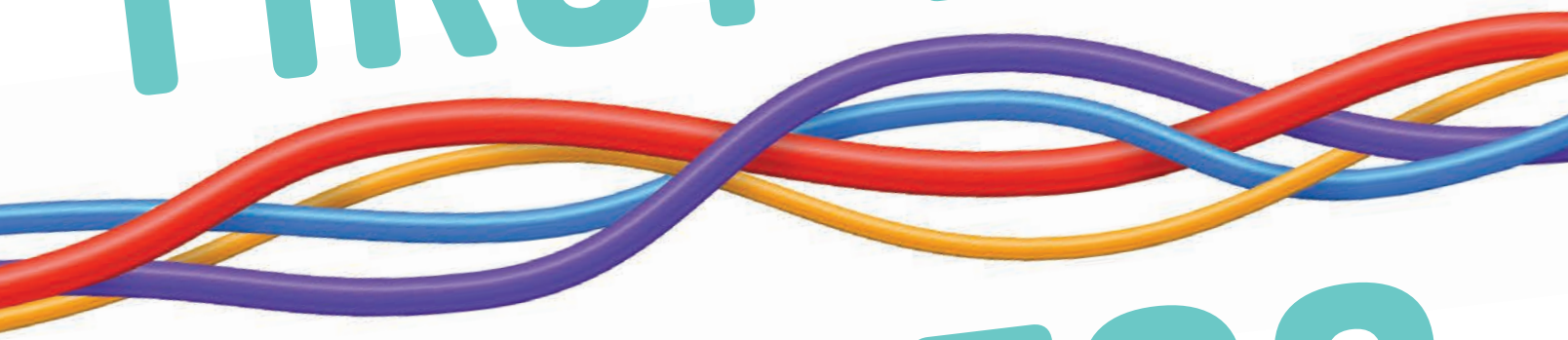

All keys were lost for a 2019 Jaguar F-Pace.

By Daniel VanDenburgh, CAL

Figure 1. This Jaguar F-Pace was not running.

Figure 2. The author used these cables with Abrites to connect into the CAN bus lines.

I RECENTLY MADE A PROXIMITY KEY for a customer on a 2019 Jaguar F-Pace, and all keys were lost. The vehicle had been a theft recovery with a police-issued VIN, as the original VIN had been scratched out in the dash and damaged beyond being readable on the doorframe. Due to the size of the lot, the vehicle was barricaded in the back of the lot, surrounded by cars. I originally attempted some of the following procedures, but I had too much trouble. I had the lot move the vehicle to gain enough space to open all the vehicle doors, including the hatch. If this had been done prior to the job, it would have been much easier.

First things first: Connect a battery maintainer. Consistent power supply is the biggest issue with programming keys. The alarm was active, indicating that the KVM (keyless vehicle module, also referred to as the RFA module) is in lockout mode. Abrites software can program keys to the locked module in an all-keys-lost situation.

Figure 3. This was the wiring under the driver's seat.

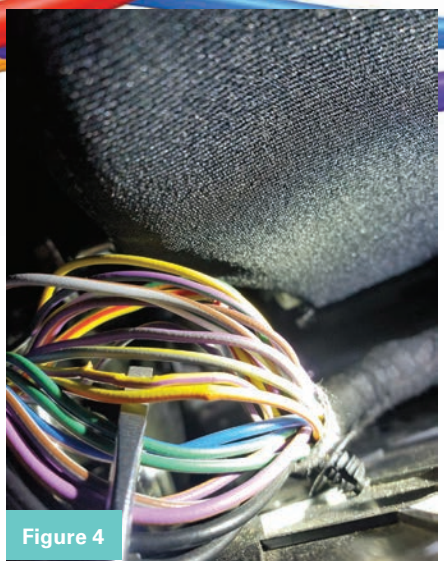
Figure 4

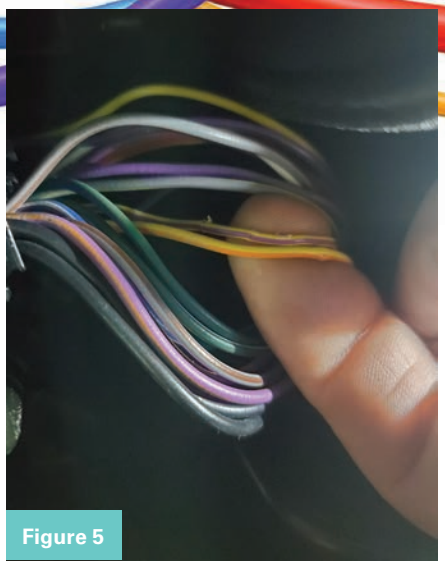
Figure 5

Figures 4 and 5. The supposedly yellow/red wire looked more like yellow/orange wire, and the yellow/brown wire can actually look yellow/purple.

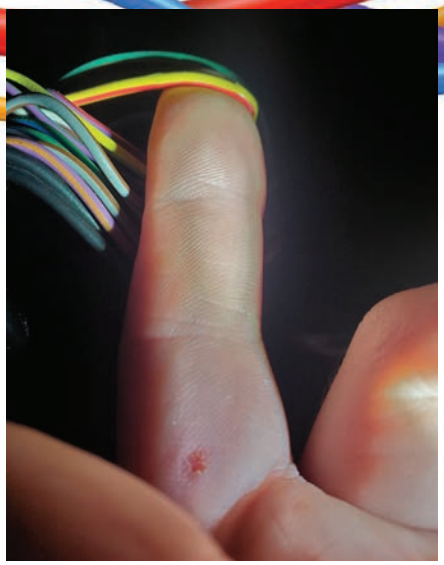

Figure 6. Under the driver's seat, the wire looked yellow/red.

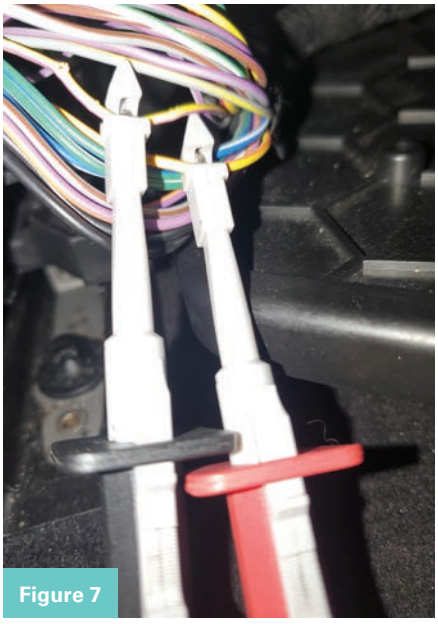
Figure 7

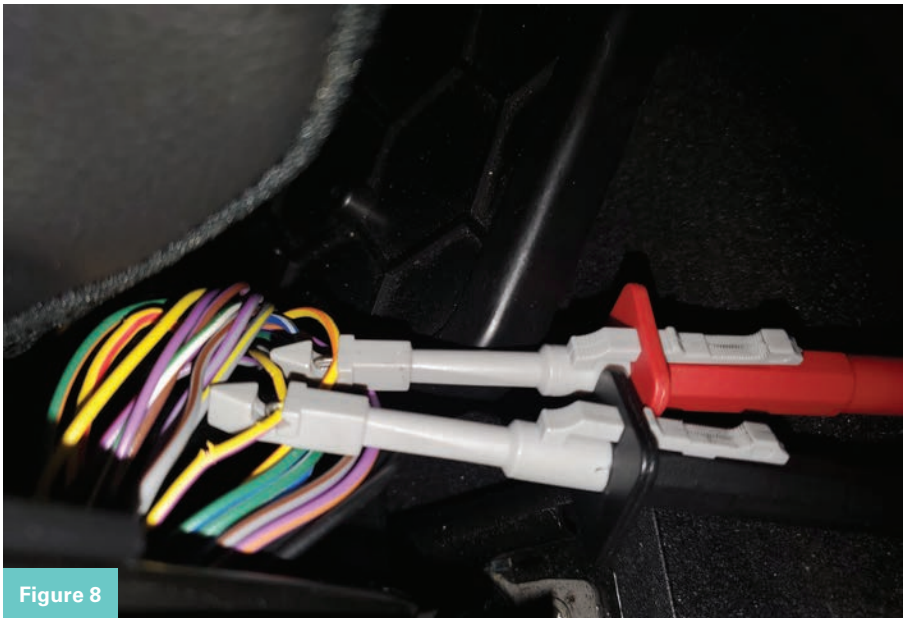
Figure 8

Figures 7 and 8. The probes are connected to the yellow/orange and yellow/purple wiring under the driver's seat.

First, I attempted to unlock the module via OBD and CAN bus lines using the Abrites and connections under the seat (see *Figures 2* and *3*). For the Abrites to program the module with this method, you must use the Abrites TA56 key and the Pro-Tag programmer attachment while plugged into the OBD.

The Abrites tool instructions explain that the CAN bus wiring is located under both of the front seats and inside all of the doors. They need to be probed with the CB012 probe cables. The cables can be tricky to properly pierce the wiring for a solid connection.

I found the best way to do this was to place the wiring in the "V" notch closest to the handle of the probe cable. The wires we are looking for are described as yellow with a red stripe, and yellow with a brown stripe (note that the software shows that this wire can also be yellow with a purple stripe). While looking under the seats, starting at the seat controls, I could clearly see them. It's also important to note that there are thicker wires further under the seat for ease of probing. I noticed that the would-be yellow/red wire looked more yellow/orange (*Figures 5* and *6*). After probing

Figure 9. The hole next to the emergency trunk latch will allow you to manually move the latch with a poker or small screwdriver.

Figure 10. Push toward the latch with the small screwdriver to release the trunk latch.

Figure 11

Figure 12

Figures 11 and 12. The KVM is located on the passenger side of the hatch.

multiple wires (*Figures 7* and *8*), I was unable to establish a connection with the vehicle, so I moved on to the KVM module location.

KVM Location

The location of the KVM is in the hatch near the passenger side wheel well. Due to the vehicle being in lockout mode, the hatch would not open. An emergency release handle was not located. To open the hatch from the inside, look down where the latch catches on the bottom of the door. In the plastic cover of the latch, there is a small hole. Insert a poker or small screwdriver and push away from the center, and the hatch will open.

If removing the KVM to replace or try an "on bench" method with a different tool, here are some steps to get to it. Remove the plastic trim pieces on the passenger-side wall and pull the lining back. The module has three plugs and is held on by two 10 mm bolts. While inspecting the KVM, I noticed that there was a set of wires intertwined: one yellow/orange, and the other yellow/purple. The intertwined lines were further toward the rear of the vehicle in the hatch, on the same wall as the KVM.

Figure 13. There are plastic clips to hold the wiring harness in place on the bolts that the KVM attaches to. One was under the 10 mm nut, and the other was on top, preventing removal of the nut.

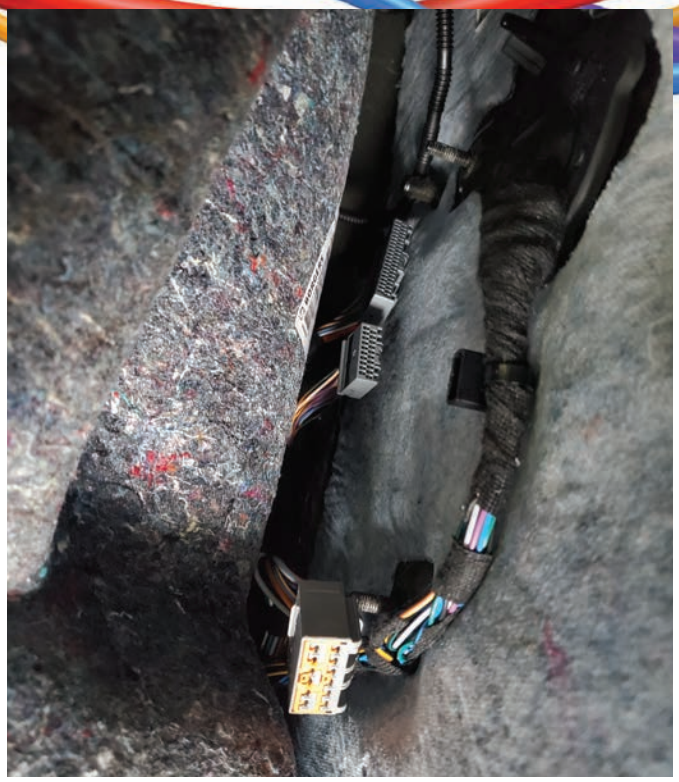

Figure 14. The module has three plugs on the underside that are somewhat difficult to remove due to limited space.

Figure 15. On the bottom of the module, you can see where plugs connect.

Figure 16. The module is removed.

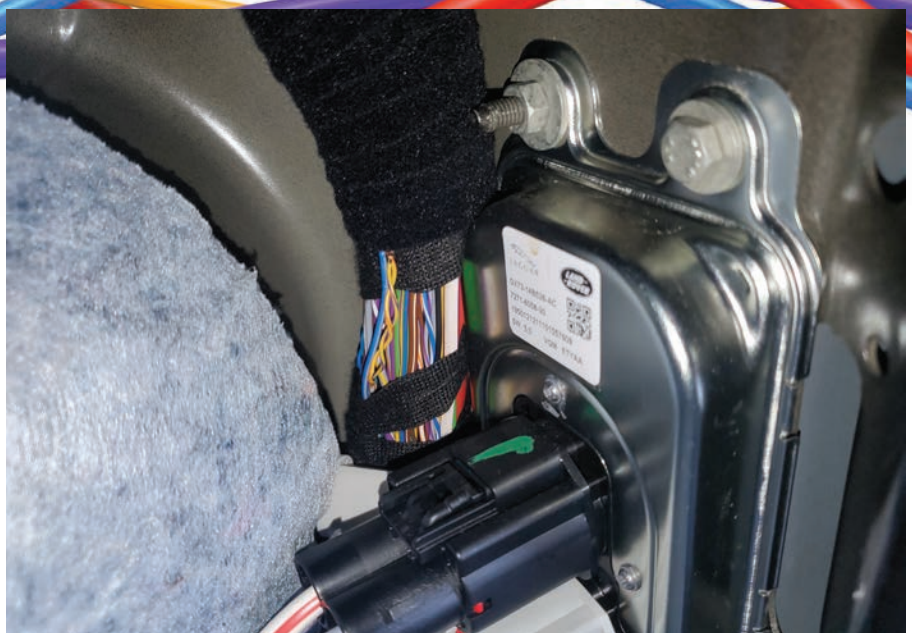

Figure 17. This shows the location of the CAN bus wires in the passenger-side trunk compartment, close to the taillight.

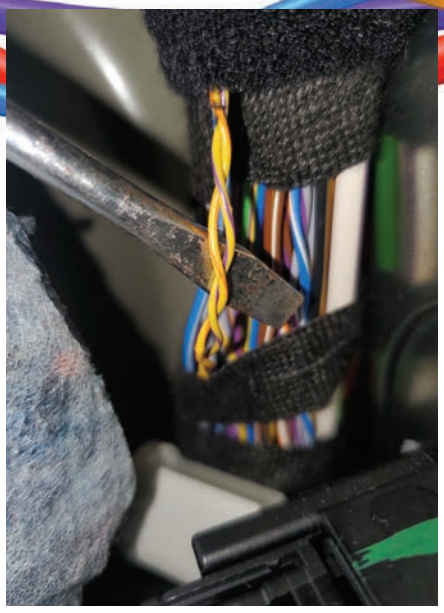

Figure 18. It's important to note that these yellow/orange and yellow/purple CAN bus wires are intertwined.

Figure 19. These cables are connected to the CAN bus lines in the trunk.

Figure 20. You can see the Abrites TA56 key and the fact that he vehicle is on.

While researching using the Abrites tool, the references showed the CAN bus lines as intertwined, but I never found them twisted together under the front seats. I reconnected the Abrites by making an extension to reach both the KVM in back and the OBD plug in front. The probe handles have a plug-in location for this exact type of situation, if you have an extra set of probes.

Once plugged into these CAN bus lines and with everything connected, follow the on-screen prompts. Programming the TA56 key with proper connections took just a few minutes, even for my first time using this method and the TA56 key. There are other methods for other tools that sometimes require removing items from the circuit board. KVM factory replacement can run into the thousands of dollars. Once I figured out this job, the Abrites programmer and the new TA56 provided a fast, reliable affordable solution for my customer.

Daniel VanDenburgh, CAL, is vice president of Lockout Express LLC in Dyer, Indiana. He has been locksmithing for 12 years in the family business servicing automotive, residential, commercial and safes.

A CLASSROOM SECURITY OPTION FROM VON DUPRIN

Greg Perry, CML, CPS, explains the benefits and installation of the Von Duprin cylinder/hex key dogging security indicator.

Sometimes a manufacturer comes out with a product that makes you say, "Wow. How simple, and why didn't they think of it sooner?" Classroom security and active shooter security have been hot topics for at least the last 10 years. Double-cylinder classroom locks like the Schlage ND95 or the L9071 are a great way to increase the security by allowing teachers to lock the door from the inside, but what about exit devices?

Von Duprin has come to the rescue with its cylinder or hex key dogging security indicator. It's available as an option on its 33/35 and 98/99 devices by simply adding "CDSI" for the cylinder dogged version or "HDSI" for the hex dogged devices. It is also available in a conversion option to retrofit existing devices manufactured since September 1997. Just remember, you cannot retrofit a fire-rated device since they aren't allowed to be mechanically dogged down.

Installation

The indicator is so simple to install. First, remove the existing dogging stud or the plug used in a cylinder dogged device, add the cam assembly and reinstall or install the appropriate hex dogging stud or plug. If you chose the cylinder dogged device, you can use any keyed cylinder or a thumbturn mortise with a standard cam. When it's assembled, it needs to be turned backward to actuate the dogging cam.

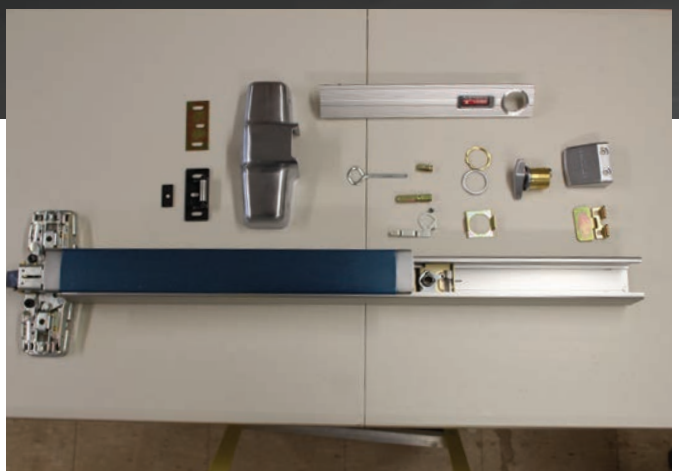

Figure 1. The Von Duprin 99 CDSI with all the parts minus screws laid out. The indicator assembly is available with the device or as separate item. It will retrofit to the 99s and 33s made since September 1997.

Figure 2. The first change is to remove the plug or hex dogging stud if you are retrofitting to an existing device from the dogging cam.

Figure 3. Add the indicator cam with tabs up. In this picture, the device is not dogged. On the outside, the indicator would show locked (if it's been installed).

Figure 4. This shows the device dogged, and the indicator arm is moved under the location of the indicator. In this location, it flips the indicator to unlocked.

Figure 5. Since this is a cylinder dogged device, you need to install the flush plug in the hub.

Figure 6. When fully seated, the plug locks the cam in place.

Figure 7. The cylinder can be a thumbturn or keyed cylinder. It's held in place with the guide and locknut.

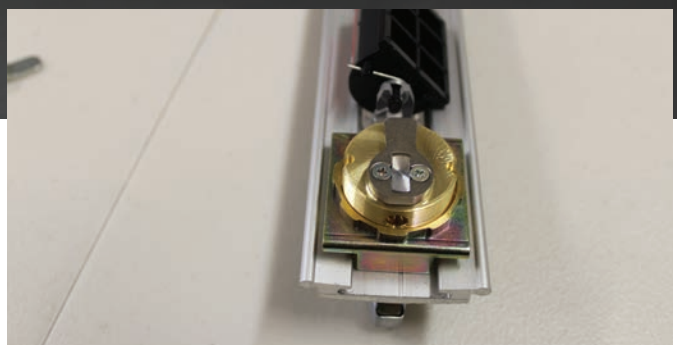

Figure 8. Install the cylinder with the mortise cam in the normal position as the first step.

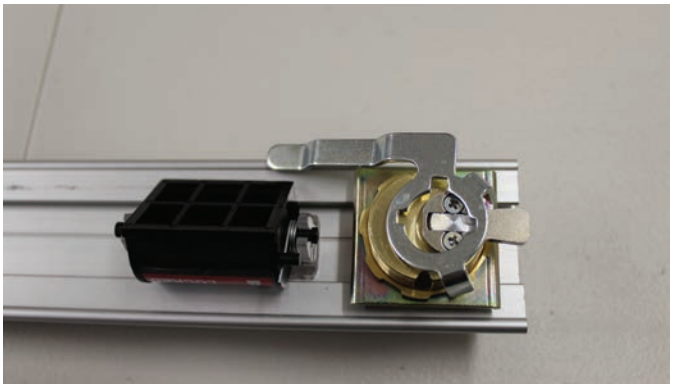

Figure 9. This is the indicator cam before it was installed on the dogging cam. The mortise cylinder cam must be turned 180 degrees to actuate it.

Figure 10. The indicator is very simple to remove when it needs to be flipped to the other hand so it reads right side up.

Figure 11. Installing the device on a door begins with installing the strike at the correct height. Then use the plastic template to mark or drill all the mounting screw holes.

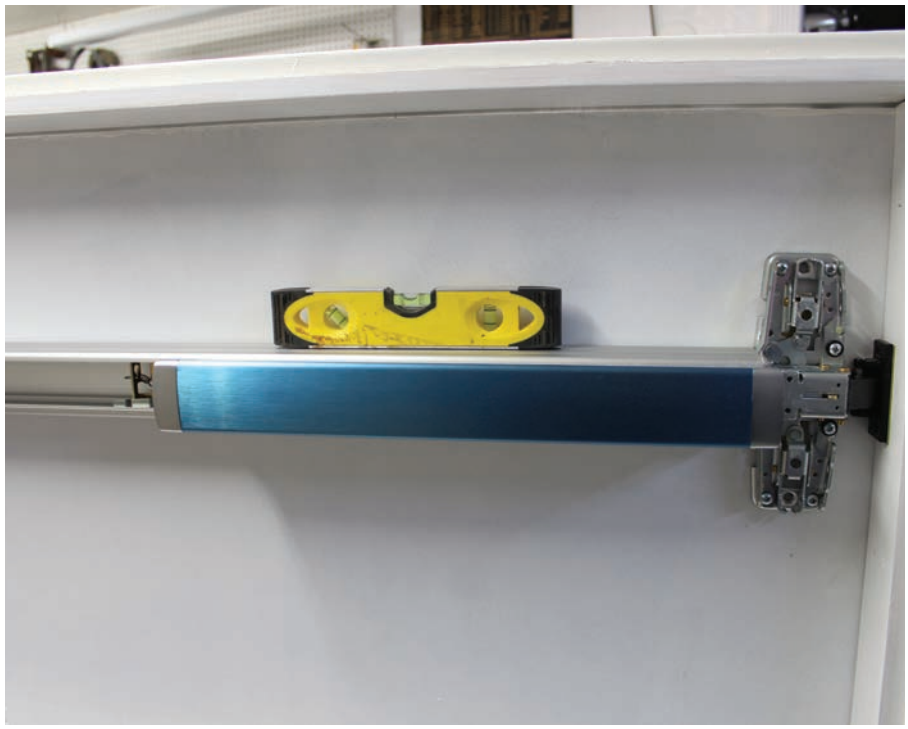

Figure 12. Always use a level when installing an exit device.

Figure 13. The hinge end of the device is held in place with the base. The end cap is screwed to the base plate after sliding the indicator plate in to the device.

Figure 14. Here is the finished install.

Figure 15. This image provides a close-up view of the indicator with the device dogged down.

Figure 16. With the device undogged, the indicator shows the device locked. It may sound simple, but always remind your customer that the door needs to be closed and latched for it to truly be locked.

Von Duprin has a different indicator device; it operates the cam assembly in the center case. The 2SI option is a double-cylinder device that actuates or moves the same locking cam that the outside cylinder rotates to lock/unlock the outside trim. This will allow you to still have electric latch retraction and could be used with a fire-rated device since it doesn't involve dogging the bar down. The 2SI uses a mortise cylinder, so it would also accept a thumbturn cylinder in case your customer does not want to use a key. If you use this version, make sure you order the correct hand.

Von Duprin is an industry leader in innovation with products like these and the concealed vertical cable system the brand introduced several years ago. I am certain they will continue to innovate and make some of the best products on the market even better.

Greg Perry, CML, CPS, is a certified master locksmith and certified professional safe technician, working in all phases of locksmithing. He has taught various locksmith topics for 10 years. He currently works in the public sector as a locksmith. He has worked in the hardware industry since 1975 in wholesale, retail and institutional settings. He has written extensively for locksmith magazines and is a five-time *Keynotes* Author of the Year. *Any opinions expressed by Greg in his articles are his alone and do not reflect any official government position.*

Figure 17. This photo is courtesy of Allegion/Von Duprin. It's the 2SI center case in the unlocked state. This means the outside trim is unlocked. The inside push bar always allows egress.

No Sharp or Pointed Objects

Tony Wiersielis, CPL, CFDI, explains why some people shouldn't be allowed to have tools.

Several years ago, I was working in a behavioral health facility in New York's Westchester County, just across the New Jersey state line. We were installing anti-ligature locks on all the patient rooms. For the uninitiated, that means the locks are designed so patients can not attach anything to them with which to hang themselves.

When we got to the floor with the young kids, I noticed a sign on one of the doors. Never forgot it. That's where I got this month's title, but, in this case, it doesn't have anything to do with mental health or suicide. Over the last few days, I've seen some installations and repairs that make me wonder why some people are allowed to have tools.

That College in Manhattan

The college bought a building down the block from my shop, and as leases expire, they're taking over floors and turning them into classroom and office spaces. My colleague Bill and I installed a bunch of BEST cylindrical locks, but an outside contractor was replacing the three stairwell exit doors. What you'll read about shortly is what I found when I went back

Figure 1. The closer is installed backwards.

Figure 2. The main arm is about to hit the door.

Figure 3. The arm is hitting and stopping the door from opening fully.

Figure 4. The closer arm is chopping up the ceiling.

Figure 5. One of the doors is installed with the bevel on the wrong side, but it works.

to install BEST cylinders and cores on the building master key system. I'm also going to go through the steps of installing the cylinders in the new panic bar trims for those who've never done it.

I opened one of the exit doors, and it stopped dead at about 70 degrees. *Figure 1* shows what I found: The closer is installed backwards. *Figure 2* shows the main arm about to hit the door, and *Figure 3* shows it hitting and stopping the door from opening fully (which is really bad karma on an exit door). *Figure 4* is another photo with the closer arm chopping up the ceiling and probably sitting too high up in the door.

Here's why these things wind up backwards, aside from the ignorance of the installer: If you look at just about any set of instructions for a door closer, you'll likely see one diagram of an installed closer and something to the effect of "Right hand shown; reverse for left hand." Herein lies the problem; a lot of installers don't see or read that line. They put it on as they see it in the diagram, and that's why you see what I'm showing you.

It galls me that they don't seem to think there's anything wrong that the door can't open fully, but I guess the attitude is to take the money and run before somebody checks their work. For whatever reason, they aren't coming back, and I'll be the one fixing them.

But Wait, There's More

It gets better (that would be sarcasm, which is difficult to "get" in the written word). One of the doors is installed with the bevel on the wrong side, but it works (*Figure 5*). But they had to drill another hole on the other side of the door, like the bottom hole in *Figure 6*. That left an unnecessary hole on the other side. Finally, not one of the mortise panic devices has a faceplate, which I need to order.

Now it actually does get better, no sarcasm. The bars and trims were an Adams Rite model I hadn't worked on before. I looked in the cylinder hole on the mounted trim and was pleasantly surprised to find the cylinder nut and the tool for tightening it stashed there (*Figure 7*). There were three screws with finish washers on the inside, and when I loosened them, the trim came off in one self-contained unit — no removing the bar, which is always a plus.

Figure 6. This extra hole left an unnecessary hole on the other side of a fire door.

Figure 7. The cylinder nut and the tool for tightening it were stashed in the cylinder hole.

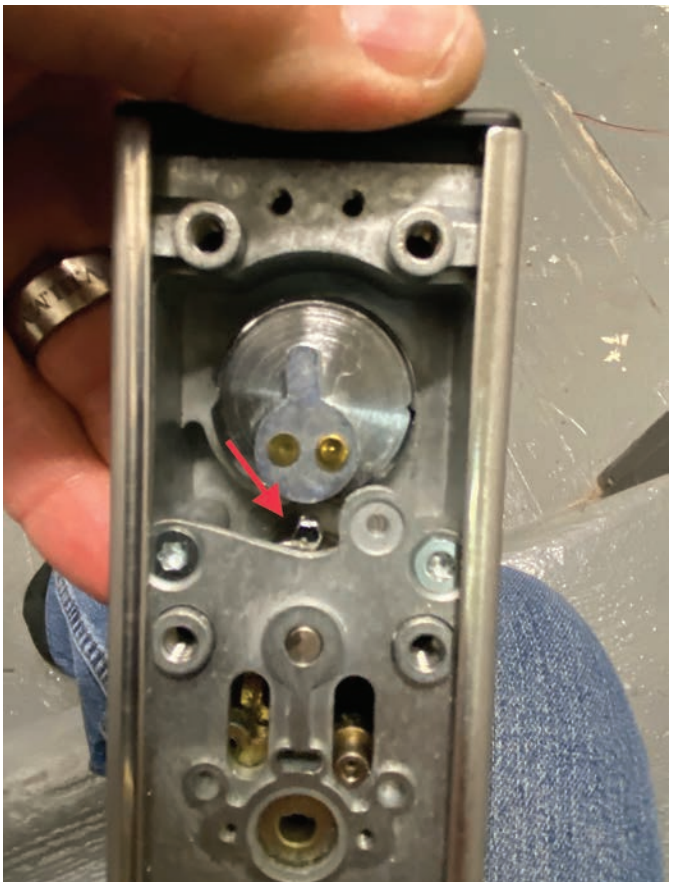

Figure 8. The red arrow points to what the cam actuates when you turn the key.

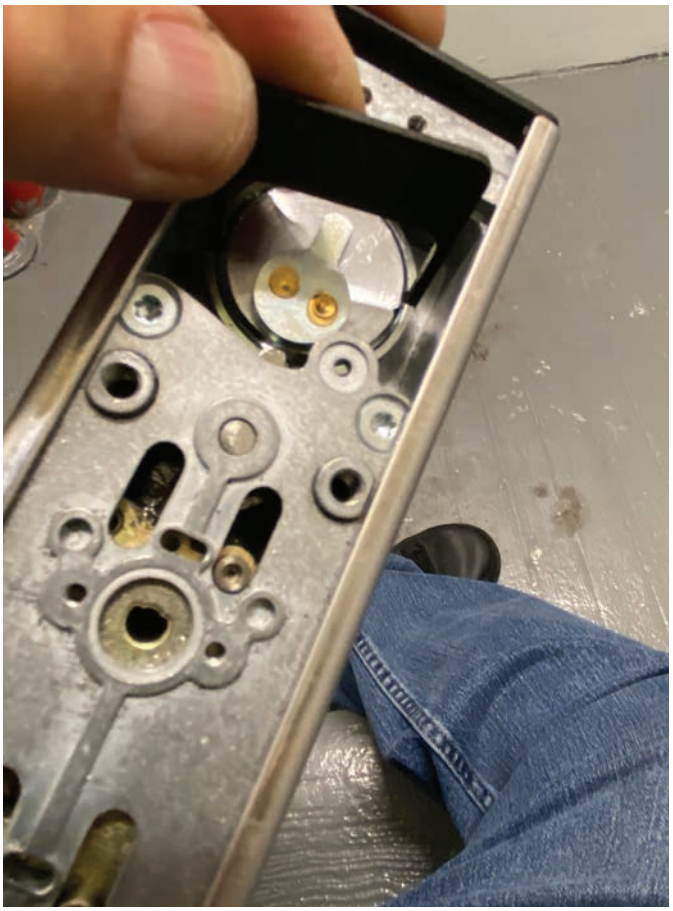

Figure 9. The author is turning the nut down to tighten it.

Figure 10. This image shows the rings the author used to get the cam to hit where it needed to.

In *Figure 8*, the red arrow points to what the cam actuates when you turn the key. It's a 360-degree turn in each direction to lock and unlock, as in classroom function. *Figure 9* shows me turning the nut down to tighten it, and *Figure 10* shows the rings I needed to use to get the cam to hit where it needed to. This installation was inside a building with cameras everywhere and regular security checks. If this were an outside door, I would have used wrench-resistance cylinder rings.

Meanwhile...

In another building, I had three work orders for stairwell doors that wouldn't latch and an interchangeable core for which the key stopped working. I took the core back to the shop and cleaned out the WD-40 residue and got it back into shape. I try to use graphite, silicone, dry lube or the silicone version of WD. The original kind is a fish-based oil that tends to gum and attract dust.

For the newbies, a fire door on a stairwell that won't latch is a *big* deal. Whether the fire-rated hardware is passage or lockable isn't the issue; the door has to positively latch. I wonder sometimes if some building managers understand this, as you'll see in the following pictures of the two of the doors that wouldn't latch. I got them to latch for now, but I'm recommending that parts be replaced on all three.

Let me elaborate on why it's so important that the doors close and latch in the path of egress, especially in stairwells. Suppose you're on the sixth floor of a building, and there's a fire on three. There will be a great deal of pressure from the

rush of air trying to feed the fire, and if the door on three doesn't close and latch securely, it's possible for smoke and fire to spread into the stairwell and to other floors. This cuts off your means of egress past the third floor.

An example was a famous actor, who will remain nameless, who had a kitchen fire in his apartment in Manhattan. He ran out of the apartment, and the door didn't close behind him. Neither did the stairwell door as he ran downstairs. The fire spread to other floors, and three people were killed.

Back to the stairwell doors. I took pictures of two of the doors. The third door had an issue in which the lever on the trim was hanging down because of a broken spring and needed to be replaced. The second door wouldn't close all the way, and the reason was apparent by looking at the arm position on the closer (*Figure 11*): There was no preloading of the arm. This is critical to ensuring the door pushes against the stop and positively latches. Otherwise, the door will tend to slow down and stop early.

You'll also notice the track of leaking hydraulic fluid to the left of the closer, which is never good. The loss of this fluid will cause erratic and violent behavior of the door. By violent, I mean that once the fluid in the closer is really low, there will be nothing to stop the closer spring from slamming violently. I'll be replacing this soon, but I needed to make it work that day. In *Figure 12*, you can see that I was able to move the arm to the right and preload it a bit. It worked, and the door closed, but what you see was as far as I could go with it.

On the third door, the latch was hitting low on the strike, and I needed to grind

Figure 11. There was no preloading of the arm.

Figure 12. The author was able to move the arm to the right and preload it a bit.

Figure 13. Someone had previously removed almost ½" of metal (red arrow). The blue arrow points to where the opening used to stop before they removed the metal.

Figure 14. The door is in the fully closed position.

Figure 15. You can see how much play there is in the door.

Figure 16. Somebody had decided to grind off part of the latch as well.

the strike down to get it to latch at all. In *Figure 13*, you can see brass at the bottom of the strike where I used a carbide burr to remove the metal. Notice how wide the opening is in the strike. That's because somebody before me decided to remove almost ½" of metal (red arrow). The blue arrow points to where the opening used to stop before they removed the metal. *Figure 14* shows the door in the fully closed position. In *Figure 15*, I pulled on the lever with the latch engaged in the strike. You can see how much play there is in the door. It didn't help that somebody, in a moment of brilliance, decided to grind off part of the latch as well (*Figure 16*).

Another Problem

Sometimes, people cause trouble with a pen instead of tools and sharp objects. Take a look at the following two pictures from one page of a bitting list for a BEST A2 IC core master key system. In *Figure 17* (the printed list), look at the cuts for MB14. Then look at *Figure 18* with the handwritten note "Greenhouse." Note that it is also MB14, but the cuts are different. And there's no other information. Not shown are the cuts for the GM and control key, which appear at the top of the bitting list.

This is a two-step progression, which means there must be at least two pin size increments or more between progressions. So the smallest master pin that can be used with an A2 system would be a 2B.

I'm going to use the letter E for even numbers and O for odd to show you

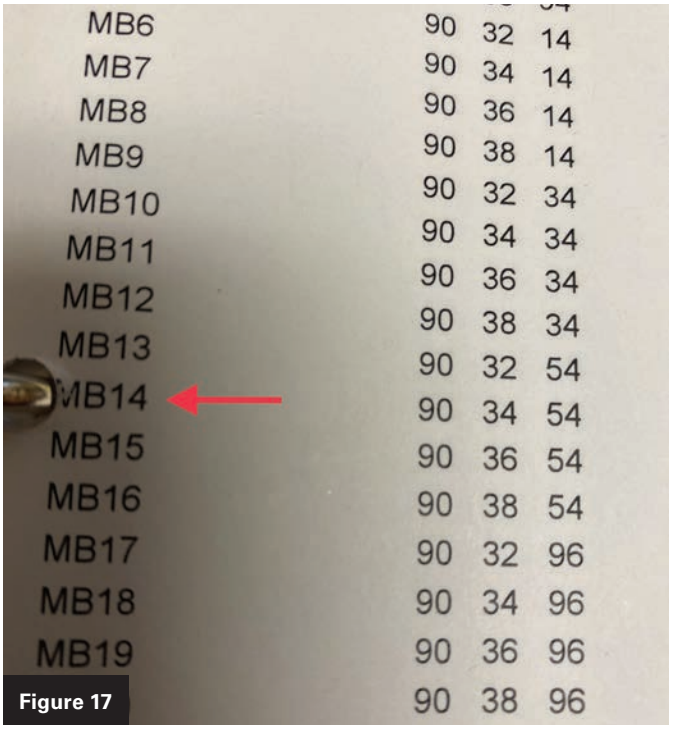

Figure 17

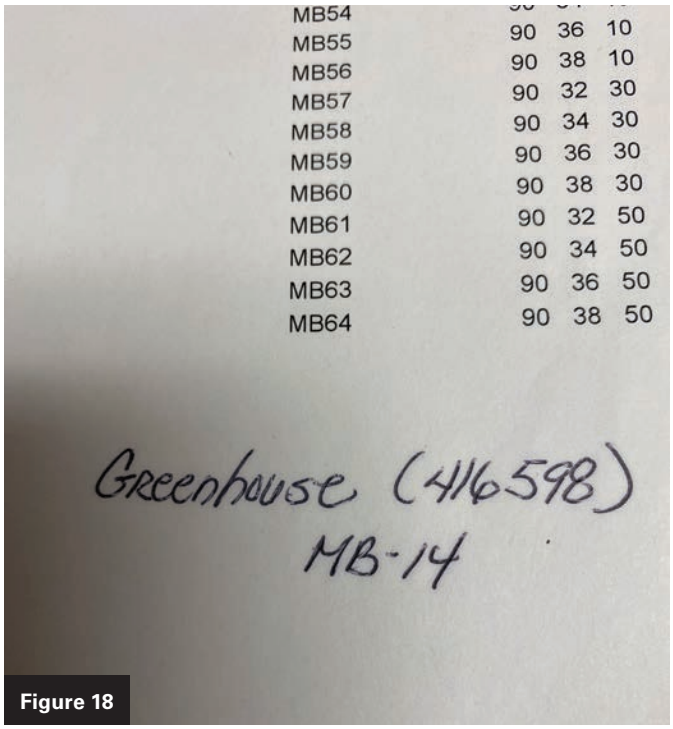

Figure 18

Figures 17 and 18. In these two images, they are both for MB14, but the cuts are different.

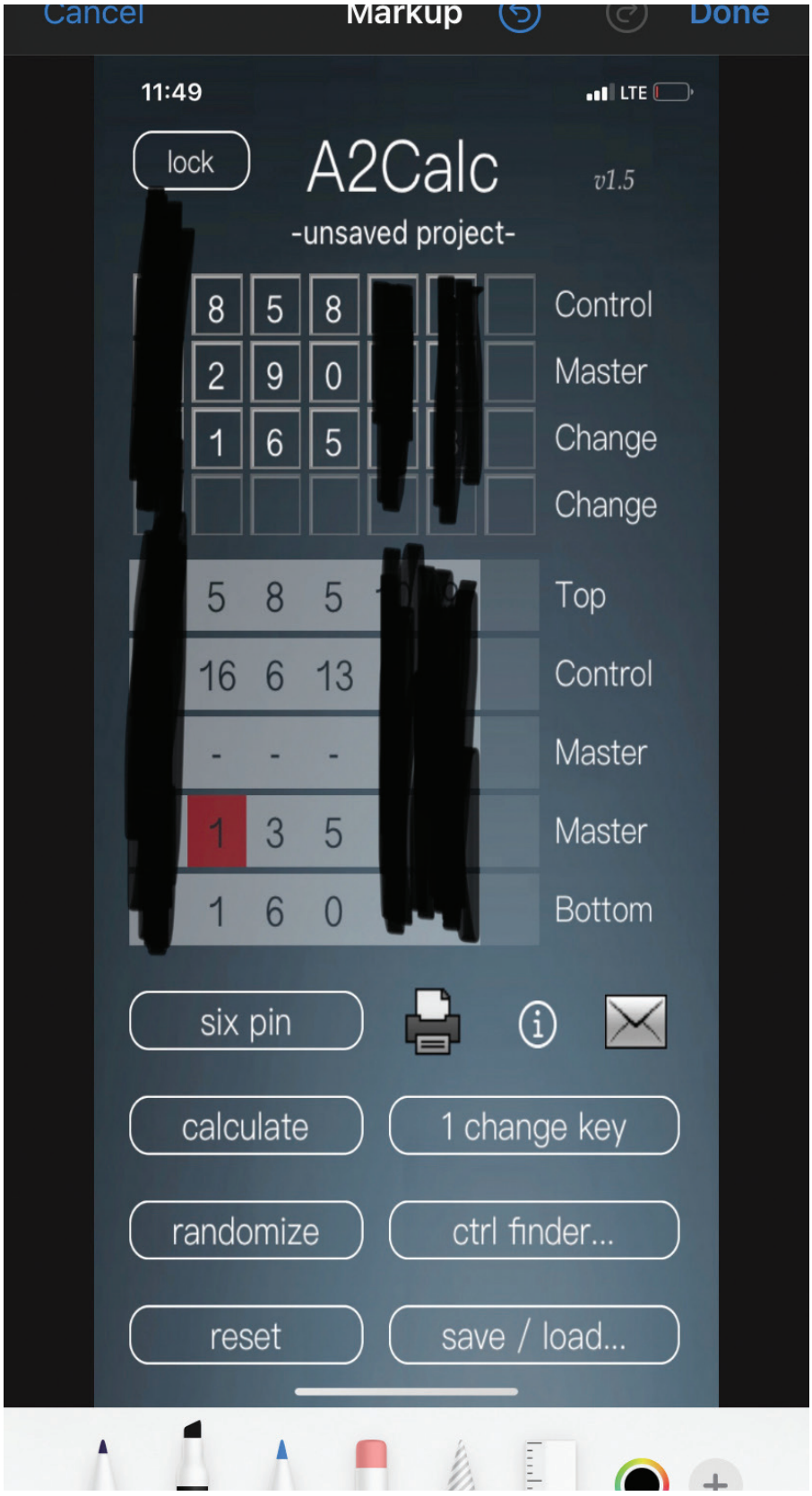

Figure 19. The author had an issue when he entered the bittings into the A2 Calc app.

what's going on here. The cuts for MB14 on the printed list are, from first to sixth chamber, EEOEOE. In the handwritten note, the cuts are EOEOOE. Notice that in the second, third and fourth chambers, what is odd on the first key is even on the second, and vice versa. This is bad news.

What's supposed to happen is that whatever the top master key (TMK) has as a sequence of odd and even cuts, the change keys and control keys should match it. Another way of saying it is: If the TMK is EOEOEO, then all the keys in the system must be EOEOEO. This is known as parity; what is even is even, and what is odd is odd. If you don't have parity, there's going to be issues like what happened to me when I tried to build a core for the handwritten MB14.

I had to assume the control and GM cuts were the ones listed at the top of the page, since there were no other notes. I entered the bittings into the A2 Calc app and tapped calculate. Bam! I had an issue. *Figure 19* shows the A2 Calc app; I blacked out everything except the chambers involved. The control and the GM are the top two lines. Notice that in each chamber, both control and GM are either odd or even.

Now look at the change key in those three chambers, and you'll see there's no parity. In other words, every cut in each chamber should be either even or odd, but they aren't. Understand that I'm referring only to the top part of the picture, which is the key cuts or bitting. The pins that are actually going to be in each chamber can be odd or even as long as the total pin stack height equals 23.

Because of this lack of parity, you see the red box in the second chamber alerting me that there's something wrong, and this can't work. Remember I said this is a two-step progression? A 1B master pin does not exist in BEST A2 systems, and if it did, it would be so thin as to cause all manner of issues. Effectively, whoever

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Figure 20. This is a BEST A2 pin kit.

Figure 21. This is a BEST A4 pin kit.

chose the numbers in the handwritten note ruled out the use of any pins in the second chamber, drastically reducing the security of the core.

And Yet One More Issue...

I figured something else out to solve the immediate issue, but things got worse. There are other cores at the greenhouse that work with this rogue key, but none of the various control keys or masters in the shop works with them. With the stroke of a pen, this guy made life miserable for me and the guy who comes after me, since I'm only filling in until they hire a full-time locksmith. I always say we should be considerate of whoever comes after us. Didn't happen here.

I've said a number of things about BEST that might be confusing to those not familiar with it, so here's a short primer on the pins and kits. *Figure 20* is a BEST A2 pin kit, and *Figure 21* is an A4 pin kit. You can see how the pins are numbered and lettered. The A2 kit has "A" bottom pins and "B" master pins. The A4 kit has "E" bottom pins and "F" master pins. Of these pins, the only size that is interchangeable between theses kits is the "0" bottom pin. The A2 pin stacks total 23, and the A4 total 14.

The reason the letters jump from A and B to E and F is because there is an A3 system, and those pins are C and D. I have an A3 kit that I inherited from another tech, but I have never used it in all these years. I couldn't find it, but when I do, I'll show you a picture. My buddy Bill has been around over 30 years and has never used one either. They're in use in certain places, but not where I am. I've also heard there was an issue with a pin size causing problems, but I'm not so sure about that anymore.

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	$265	❑ I elect to Go Green	$235
❑ International	$275	❑ I elect to Go Green	$205

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

❑ US and US Territories	$55

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	$265	❑ I elect to Go Green	$235
❑ International	$275	❑ I elect to Go Green	$205

Probationary Membership – No Sponsorship Required
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❑ US and US Territories	$265	❑ I elect to Go Green	$235
❑ International	$275	❑ I elect to Go Green	$205

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	$265	❑ I elect to Go Green	$235
❑ International	$275	❑ I elect to Go Green	$205

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
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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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Employer: North Carolina State University

Working Title: Locksmith II

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Work Schedule: M-F, 7:00 a.m. – 3:30 p.m.

Job Location: Raleigh, NC

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Primary job responsibilities for the Locksmith II position include, but are not limited to:

- Servicing, repairing and installing all door hardware, including fire rated exit devices, closers, mortise, and cylindrical locking hardware.
- Understanding of NFPA 101 and NFPA 80 life safety and fire codes, and the ability to locate and research needed materials associated with job from vendor source.
- Providing cost estimates and proposals.
- Working knowledge in key bittings array for small format master keying, pinning of cores, ability to research and collect information pertaining to customer needs.

Minimum Experience/Education:

- High school diploma or equivalency; or demonstrated possession of the competencies necessary to perform the work.
- Knowledge and skills necessary that relates to keying a building, paperwork and documentation associated with rekeys and the ability to coordinate key meetings, pinning cores, cutting keys, and installation of hardware.

Required Licensing and Certifications:

- Valid Driver's license required. Must be able to obtain a valid NC driver's license within 60 days of hire and it must be maintained.
- Current locksmith license required.

NC State offers a comprehensive benefits package designed to provide a variety of choices for Staff/Faculty and their families. This includes but is not limited to Health Insurance, Holiday Pay, Annual and Sick Leave, Retirement Plans, Tuition Waiver Program, Wellness Programs, Recognition Programs, and WolfPerks Discounts. You can learn more about the plans here: https://benefits.hr.ncsu.edu/. <12/21>

Classified Advertising Policy

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.

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