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

March 2022





SECURING YOUR SUCCESS

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Storefront Storm Front

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Features

Storefront Storm Front

Consumers may now be more aware of a hardware issue — and take advantage of it.

The Tabernacle

This client had the "keys of the kingdom," but they did not have the keys to this container.

Fraternal Twins

When you don't have the exact replacement, sometimes a nearmatch can be modified to fit.



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Investigative

L C Take investigative classes this year and get certified.

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No part of this publication may be reprinted without permission. POSTMASTER: Send address changes to: Keynotes, 1408 N. Riverfront Blvd. Dallas, TX 75207.

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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 lock-smith 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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Keynotes (ISSN 0277 0792) is published monthly except for a combined July/August issue by ALOA Security Professionals Association, Inc., 1408 N. Riverfront Blvd., Dallas, TX 75207. Subscription rates are \$25 per year for members. Periodical class postage paid at Dallas, Texas and additional offices.

Constant Maffey, RL 1966-1968

> 1964-1966 William Meacham*

1962-1964 Robert Rackliffe, CPL*

Edwin Toepfer, RL*

Ernest Johannesen* *deceased

Joe Jackman, CML* Stanley Haney, CPL*

1960-1962

John Kerr, RL* Clifford Cox, CML*

Charles Hetherington*

Louis LaGreco, CPL*

Gene Laughridge*

Harold Edelstein, RL*

1968-1970

1956-1960

1977-1979

1974-1977

1985-1987

1983-1985

1981-1983

1979-1981

1972-1974

1970-1972 William Dutcher, RL*

Don't Miss the Upcoming Industry Events

ERE IT IS — MARCH ALREADY, AND THE YEAR IS ALMOST ONE quarter over. Hopefully, it will get warmer soon. We spent a week (in Northwest Ohio) in late January with the weather never breaking the freezing mark. And this is with a 40-mph wind blowing out of the north. If any of you do not know what "wind chill" is, come up, and you can experience it firsthand. Numb fingers were common.

Next month is the SAFETECH convention, and we are back in Lexington. I hope you have already made your reservations. If not, you should, because this should be a *great* convention.

I do not know if it is an omen or not, but InterMountain will have a trade show in Seattle on April 15. This being tax day, I am not sure about this.

ELF Convention

Want to see Italy and write it off? The European Lock Federation convention will be the weekend of May 13-14 in Bologna again. It is a good chance to see how the European conventions stack up against ours. They have a fabulous dinner on Saturday night after the show, and there are a lot of interesting places to see in Bologna.

ALOA 2022

May will be quiet, but in July we are back at the ALOA convention in Vegas, with lots of good classes and comradeship. We are back at the same hotel as last time. This will be the cheapest convention you can attend because of the great prices we were able to get. The last time we were there, you could get a porterhouse steak, potato, salad and drink for about \$20. I really hope they have not raised the prices much.

I hope to see a lot of you at these various events.

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



"Next month is the SAFETECH convention, and we are back in Lexington. I hope you have already made your reservations. If not, you should, because this should be a great convention. "

Looking Forward to 2022 Conventions

HE PAST TWO YEARS HAVE been difficult for anyone holding events, and ALOA and SAVTA conventions and other classes have been no exception. In 2020, we could hold neither SAFETECH nor the ALOA convention. In 2021, we sadly couldn't hold SAFETECH, but ALOA 2021 in Orlando was a great success. Despite the challenges, we found ways to bring education to you in your homes and offices through webinars, and they have been a great success. We look forward to continuing those.

And now, two years into the pandemic, we are having our much-anticipated return to SAFETECH April 4-9 in Lexington. We have planned a wonderful event for attendees, and we hope this will be the best SAFETECH yet. We are back at the Griffin Gate Marriott, which is newly renovated. It looks fantastic, and I am sure you all will enjoy the new atmosphere and the convenience of the property.

If you haven't registered, it's not too late! Go to SAVTA.org to register online, and you can contact conventions@aloa. org for any required assistance. Don't forget to book your hotel room too, as the room block often sells out. You can find more information on the convention tab on SAVTA.org.

ALOA 2022

Last year's ALOA Convention & Security Expo was a great success, and we're looking

"We know it's been difficult these past two years, and your support means so much to the association and the industry."

forward to another wonderful convention in Last Vegas this year. Make plans now to attend July 24-30 at the South Point Hotel & Casino. This is the fantastic venue we had last time, and we are excited to go back. We were able to once again secure a contract that keeps costs low for attendees, and the setup allows for everything to be in a fairly condensed area, unlike some of the other Las Vegas properties.

We will have registration information available in April. Be sure to keep an eye out for the April issue of Keynotes for the brochure, and you'll soon be able to find out more online at ALOA.org as well.

Thank You for Renewing

Thanks to all of you who have renewed your memberships since 2020. We know it's been difficult these past two years, and your support means so much to



the association and the industry. While budgets have been tight, we have continued to provide your member benefits — and even created some new ones.

One such benefit is the *Locksmith Talk With ALOA* podcast. Hosted by Bill Lynk and Tyler Thomas, this podcast covers all kinds of topics, from master keying and access control to legal and HR issues. We had a short hiatus, but we are now coming back with new episodes. Be sure to listen, and let education@aloa. org know if you have any suggestions for upcoming topics.

Thank you for your continued support of ALOA, and we're looking forward to all of our events and classes the rest of the year.

mary Q. may

Mary A. May Executive Director mary@aloa.org



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Framon's new Safe Deposit Killer Kit makes quick & easy work out of drilling S & G and Diebold safe deposit box locks. When traditional methods can't be used due to a plastic or flimsy door the killer kit is your answer. Simply insert the appropriate guide into the keyway and use a hole saw to drill out the face of the plug. Easy entry in minutes. Kit comes with three guides and two-hole saws in an easy to store plastic carrying case. Made in the USA.





Contact BOTH Blue Dog Keys and Framon Manufacturing Company:

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PDO Announces New Product

DQ IS INTRODUCING THE NEW 6300 AND 6400 series architectural exit devices. The design offers enhanced noise reduction as well as easy installation and adjustment. They come in a wide stile (6300) and a true narrow stile (6400) to fit many door applications. Visit PDQlocks.com to learn more.

COMPANY NEWS



CompX has announced a photo contest. Customers can submit photos of projects using CompX products to win prizes such as gift cards worth up to \$500. Judging will be done by a panel of CompX employees. Submit your photos by March 31 at http://compx.com/contest/enter.php. Winners will be announced in early April.

IN MEMORIAM

Royce L. Welch, RL, of Kansas City, KS, has passed. He had been a member with ALOA since 2002.

William J. Hance of Ruby Mountain Lock & Safe, LLC in Elko, NV, has passed away. He was a member of ALOA, SAVTA and IAIL for five years.

Harry C. O'Haver, RL, of Industrial Security Locking Systems, LLC in Bowie, MD, passed away in January. He had been a member of ALOA since 2011.

PRODUCT BRIEFS





and is different from the one used in that chamber for MT5+. When purchased sub-assembled, the cylinders will be preloaded with the appropriate top pin in place.

Mul-T-Lock has also updated the Hercular Deadbolt, which used to have a flat tail that needed to be cut down to size. The company has previously provided a tail that is selfadjusting. To accommodate the digital locks in the market, the company has made a combination of both. This tail will

be provided with two rounded head bolts (¼-28 x 2 ½"). Codelocks has launched its newest KitLock, the KL1000 G3 NetCode, which has a chrome finish. It is intended for environments where lockers may be used to store personal belongings and allows remote generation of temporary access codes. It features a key override function, easy access to the battery compartment and the option to include Slam Latch for fast "push-shut" closure. Users can choose from private or public function.

NEW APPLICANTS

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 Lock Doctor
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Lodi

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Taft

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- ► Terry J. Dow AB Dependable Lock & Safe Sponsor: Donald A. Tucker, RL

NEW HAMPSHIRE

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Curt A. LaPointe Curt's Lock Service

NEW MEXICO

Albuquerque

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NEW YORK

Lockport

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- ► Rex Manning
- Corpus Christi Safe & Lock De Berry
- Calvin L. Carroll Securlock & Safe, LLC Sponsor: William O. Carroll

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- Megan Langford
- Jeremy Stringham
- ► Josh Tebbs

VIRGINIA

Richmond

- ► Gavin R. Keerans Fall Line Security, LLC Sponsor: Scott H. Keerans
- Simon J. Wilson
 Fall Line Security
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Istanbul

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- Sariyer, Istanbul
- Jamaal Yilmaz Master Teknik Tasarim Makina San. & TIC. LTD.

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- Daniel R. Walling, CPL, CFDI, AMKS Dubuque, IA
- CLL
- John Henry, CLL Monroe, LA
- Howard E. Hilker III, CLL Denham Springs, LA
- ► Dakota Laque, CLL Duson, LA
- CRL
- David Andre Fernandez, CRL Reston, VA

CALENDAR

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

MARCH

March 22-23

ALOA Fire Door Inspector Webinar ALOA.org education@aloa.org or (800) 532-2562

APRIL

April 4-9

SAFETECH 2022

Griffin Gate Marriott, Lexington, KY ALOA.org | conventions@aloa.org or (800) 532-2562

MAY

May 23-28

6-Day Basic Fundamentals Locksmithing

In-person, at ALOA Training Center, Dallas, Dallas, TX

Begins Monday, May 23 @ 7:30 a.m. CST – 4:30 pm CST Saturday, May 28th @ 8 a.m. CST – 12 Noon CST

Questions? education@aloa.org or (469) 453-5220 See all course and registration details: https://conta.cc/3JUe311

May 2-June 27

AMKS, ALOA Master Key Specialist Certification Webinar Series Webinar (Online) consisting of 16 one-hour sessions, twice a week

Begins: Monday, May 2, 2022 @ 6 p.m. CST – 7 p.m. CST Last session: Monday, June 27, 2022. Includes $\frac{1}{2}$ hour bonus Q&A after each session! Certification Exams June 30 and July 7

Questions? education@aloa.org or (469) 453-5220 See all webinar and registration details: https://conta.cc/3K7pgyR

JUNE

June 16-17 Southern Lock 2022 Trade Show & Learning Expo St. Petersburg, FL www.southernlock.com

JULY

July 24-30 ALOA 2022 SouthPoint Hotel & Casino, Las Vegas, NV ALOA.org | conventions@aloa.org or (800) 532-2562

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.



SAFETECH Is Coming Soon!

Finalize your plans to attend.

AFETECH 2022 IS ALMOST HERE, AND CLASSES ARE FILLING! HOPEFULLY you have already registered to join us April 4-9 for the industry's best safe classes, but you can still register. Registration is available online at SAVTA.org on the Convention tab, where you can also find the brochure that includes the list of classes and events.

Come learn all about safe locks, how to work on safe deposit locks, drill safes and more. This is the perfect chance to pick up some new skills and add value to your business!

SAFETECH Events

If you've already registered, don't forget to schedule time for all the events at the convention: the trade show, Kick-Off Party, Swap Meet, Manipulation Contest and especially the Friends of SAVTA Live Auction.

This year, we have a very exciting item for you to bid on: tickets to Elton John's

Lexington stop on his farewell tour the night of April 9, the day of the trade show! The package includes two tickets that you can't find anywhere else for face value, plus a night at a hotel close to the concert venue. You didn't need another reason to stay for the trade show, but now you have one! Plan for staying in Lexington that night in case you win.

What more proof do you need? Register for classes and secure your hotel room today. See you soon in Lexington!







The Next Generation of Institutional Locksmiths

Steve Fryman, CRL, CAI, CISM, ponders who the torch will be passed to.

UR NEXT GENERATION OF INSTITUTIONAL LOCKSMITHS CONSTITUTE a brave new world. No, this is not a dystopian social science novel reference. This brave new world consists of men and women taking a chance in a vocation that requires talent and skills in many areas: electronics, mechanics, cognitive thinking, problem solving and emotional intelligence.

The world increasingly needs trained men and women who can work with their hands and minds. It's becoming more evident that a college degree is not a guaranteed path to success. The workers of tomorrow require fulfillment with their vocational pursuits. I know that I find my work fulfilling and purposeful.

The next generation, in my opinion, is not looking to make a killing at whatever vocation they choose and retire at 50. They are looking for a vocation that adds quality to others' lives by doing something meaningful. In this article, I will explore the idea of what the next generation of institutional locksmith might look like.

The way I was exposed to the locksmithing world was very different from how I envision the future "me" will be exposed. I am a second-generation locksmith. My brother is a locksmith. We have been exposed to this business from birth, helping our father make a living for our family. In turn, I had direction after high school working in the trade with my family and then starting my own business at the age of 30. I had great success in the next county north of my father's business. I made a great living for myself and my family. The same can be said for my brother, who moved a county south of my father's business. My brother is still hard at it, but not terribly so, as he still finds time to get away in his RV for weeks at a time.

My brother had the fortune of his daughter marrying a guy who fits the description of a next-generation locksmith. My brother's son-in-law is a great combination of the qualities I mentioned: very mechanical, fearless and very quick to learn. Another quality that I did not mention was a good work ethic — that is very important also, and it's all part of the package.

I was hoping my daughter was going to take on the family trade, but alas, no. My daughter took the ALOA fundamentals class at a convention on a ALOA scholarship. I think she was a senior in high school at the time. At least she had an opportunity to decide whether she wanted to go the trade route or the academic route, and I'm glad she did.

I am forever grateful to the folks who support the ALOA Scholarship Fund. This gives the next generation of locksmiths an opportunity to learn from great instructors and decide if this is a career they want to pursue. All the instructors I have known are great human beings who share their experiences from the physical security world. I wonder statistically how many people who have been ALOA Scholarship recipients have gone on to make locksmithing their career.

The Next Generation

We know that locksmithing is a great family business. That's what I did before becoming an Institutional Locksmith. What about institutional locksmithing in particular?

Where is the next generation of institutional locksmiths coming from? At the two universities I have worked at, one of the pathways to the key shop was the carpenter shop. In some institutional settings, the carpenter shop supervisor also supervised the key shop. I know this model is changing. Where I am currently working, shops are made up of a variety of trades. The key shop has its own supervisor (that's what I did for 12 years). At other universities, the institutional locksmiths report to the campus police. Our campus police department oversees the access control and cameras on our campus, while the facilities key shop is responsible for all the mechanical aspects of the work. Oh, and don't get me wrong: We replace electronic parts and troubleshoot the access control system. Someone must determine whose stuff is the problem.

Perhaps veterans would be a great source for the next generation of institutional locksmiths. I am so appreciative of the men and women who have served in the military. I think a lot of what they learn and experience in the military would serve them well if returning to civilian life as an institutional locksmith. Perhaps they even had experience in the military as a locksmith. I have seen military service as a great path to the civilian world of locksmithing.

Certainly, I have not exhausted all the pathways to finding the next generation of institutional locksmiths. I just wanted to get you thinking of who we are going to pass the torch to. I know I have been at this trade for some 45 years, and I try to find ways to give back, whether teaching at conferences or by writing. As we are aging, it's not a bad idea to think about who we can pass the torch to. \mathfrak{S}



Steve B. Fryman, CRL, CAI, CISM, has worked in the physical security field for more than 40 years. Now working as the key compliance manager at

Florida State University, he previously served as an institutional locksmith at the University of Florida and in the private sector with his own locksmith business. He developed the first curriculum and testing for the Certified Institutional Shop Manager designation, making him the first recipient of this credential.





Invest in Your Future

Take investigative classes this year and get certified.



TTENTION, CERTIFIED FORENSIC LOCKSMITHS! DON'T FORGET that re-certifications are due by the end of this month! Don't let all the hard work and training fade away. Even if you're not currently working cases, you never know when the certification may make the difference. Maybe a new customer will choose

you over someone else because of more certifications that show your expertise in locksmithing.

I think back to when I was applying as a reservist to the U.S. Air Force Office of Special Investigations (AFOSI). I thought maybe they would choose me because I was also a police officer. In my one-hour interview, we spent about 10 minutes on my law enforcement experience. My screener was blunt: He told me that there are a lot of police officers in the reserves, but "Tell me about this forensic locksmith certification." We spent the rest of the interview talking about that and what specialties I could bring to their team. I made the cut after a 75% washout rate of applicants, and I became an AFOSI, Special Agent. There is no doubt in my mind that the CFL credential made the difference.

Forensic Classes Coming Up

My point about your certification is that if you have it, keep it. If you're close to getting it, finish it. If you're interested, start it! You never know what doors it may open. If you have a training class need for CFL completion, let us know so we can better plan courses to help you get there.

There will be an excellent two-day forensic safe class at SAFETECH in April taught by Tom Demont and James Ashley. Register today. You can find out more about the class and convention by going to SAVTA.org and clicking on the Convention tab. We will also have two investigative classes coming up at the ALOA Convention in July in Las Vegas. One of those will be a photography class. Look for more information coming soon online at ALOA.org and in *Keynotes*.

Don't forget, if you're a current member of IAIL, you can join our Facebook page through the ALOA page (which you must like first). From there, you can join IAIL page. If you have any questions, please email me at IAILPresident@aloa.org.

A New Beginning

Recently, I was recruited by a major corporation for a full-time position to inspect and test security-related issues. Once again, my certifications played a major part in this opportunity. I wasn't even looking for a new job when this was recommended to me. Unfortunately, my new position's commitments and related travel will interfere with my position with IAIL. In the best interest of the organization, past President Tom Demont will reassume the presidency of IAIL until a new president is selected.Thank you for the honor and opportunity to have served as IAIL president and board member. @



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.



MORE SECURE WITH THE POWER OF

MORE INNOVATION | The technology built into Medeco 4 stretches the boundaries of features that can fit into a single cylinder.

MORE PROTECTION | A movable element on the key engages a lift pin to activate the sidebar for more protection against picking, as well as 3D printing.

MORE COMBINATIONS | Side-pin bittings allow for a vast number of pinning combinations to support the largest key system requirements.

MORE SECURITY | Our history of enforcing patents along with stringent key control programs makes every cylinder the most secure it can be.

Experience a safer and more open world

- contract of the second



Working With AMSEC Wall Safes

Matthew Holley, CML, provides technical information on this simple safe.

HE AMERICAN SECURITY PRODUCTS — AMSEC FOR SHORT — SAFE model shown in *Figure 1* is one that I have come across many times in my career. They are not very tough safes in their construction. The walls are rather thin, the electronics are quite simple and they cannot be retrofitted with "magic module" footprint safe locks. Even the key override seems to be inexpensively produced (more on that later). This safe has the batteries stored on the inside of the safe. Therefore, if the user ignores the low battery warning (or there is an electrical failure), the mechanical key override will need to be used to gain entry to the safe.

If approaching this safe as a lockout, yet there is still battery power, attempt to open the safe with the original combo, which I believe is 159A. If that fails, see if any particular buttons have wear marks on them; you might just get lucky.



Figure 1. This style of AMSEC wall safe has thin walls and simple electronics.



Figure 2. The cam is in the home position.

When the Combo Isn't Working

In the event the default combo doesn't work, remove the round cover for the concealed key override cylinder. Unfortunately, the cover I speak of is missing from the safe seen in the following photos. This cam lock uses a double-sided key with wafers on both sides of the plug.

Of the several units I've attempted picking, I have picked approximately... zero. I've even had two plugs crumble as I was picking. Granted, I wasn't being overly aggressive with my picking, but I had escalated from feather tension and feather raking to more rigorous raking. Once the plug crumbled on two units, I was able to extract the plug pieces and brass wafers to rotate the remaining portion of the plug with a flat-blade screwdriver. This in turn rotates the cam to depress the solenoid to open the safe. Figure 2 shows the cam lock with the cam in the home position — no key inserted. *Figure 3* shows the cam traveling toward the solenoid. Figure 4 shows the cam depressing the flat washer around the solenoid, thus manually overriding the solenoid to open the safe.

While picking this style of AMSEC wall safe (when the plug didn't crumble), I noticed there was enough of a gap between the plug and the shell to insert curved shims (Figures 5 and 6). The reason why it's relevant is the ability to use the shims to hold the wafers at the shear line. I insert one shim, maintaining gentle inward pressure, and manipulate the brass wafer until the shim would advance beyond that wafer. I continue the process until the shim is holding down all wafers on that particular side. I repeat the process on the opposite side. With both shims in place, I use a flat-blade screwdriver to rotate the plug counter-clockwise to depress the solenoid, keeping the safe locked. Once depressed, pull on the



Figure 3. The cam is traveling toward the solenoid.



Figure 4. The cam is depressing the flat washer around the solenoid, thus manually overriding the solenoid to open the safe.





Figures 5 and 6. There is enough of a gap between the plug and the shell to insert curved shims.

silver handle to open the safe.

Upon opening the safe, it is recommended to change the batteries. There should be four AA batteries, if memory serves me correctly.

To change the combo if all codes are lost (or if the owner wants a new code), simply depress the red button seen in *Figure 7* and immediately enter the new desired code. The button is on the hinge side of the plastic housing inside the safe. *Figure 8* shows the hinge side of the door, and the button is not visible. As always, test the new combination several times with the door open.

The next step is to replace the cam lock. Personally, I wouldn't order key blanks for this safe for several reasons. One, I haven't used them for anything else in the past. Two, having more than one of these plugs crumble while picking doesn't sit well with me. I wouldn't want the plug



Figure 7. To change the combo, depress the red button and immediately enter the new desired code.



Figure 8. The hinge side of the door is shown.

to fall apart on a customer. A third reason why I replace the original cam lock is I usually stock tubular cam locks. They seem to hold up quite well.

All in all, these are rather inexpensive safes but not worth scrapping when customers lose keys and combinations. Instead, security professionals can breathe life into these units, provided the electronics aren't fried. @



Matthew Holley, CML, is an ambitious Certified Master Locksmith whose background spans all

areas of locksmithing

including automotive, institutional and military. He is currently the president of the California Locksmith Association-San Diego chapter, which has affiliations with ALOA. In 2015 and 2016, Matthew received the "Outstanding Person of the Year" award. He can be reached at Matthew.safe.cracker@gmail.com for questions or comments. ADVERTORIAL

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HERE'S AN UNTAPPED MARKET in automotive key replacement and that market is huge — an estimated \$3.4 billion. According to a recent webinar, that market is the 50 percent of passenger vehicle drivers (some 108 million are registered in the U.S.) that have just one set of keys for their vehicle. What happened to the other set? Lost, broken, washed, never received. And whether these drivers know it or not, they are one mishap away from having a very bad day.

There's reason to believe that these drivers are aware of the precarious nature of their key-challenged state and would eagerly get a second set if they knew either where to get one — or if they were aware of an alternative to the wait and expense of the dealership. What an opportunity this is for the traditional locksmith and vehicle repair shops.

The development of easy-to-use key and immobilizer tablets have enabled the process of key replacement to be both quick and profitable, especially when sticking to the sweet spot of the market — U.S. and Asian vehicles, which have less sophisticated key/immobilizer systems than those of European vehicles. Autel is about to introduce a universal programmable key solution that will enable locksmiths and Vehicle Security Professionals (NASTF credentialed) to replace keys for their customers at a dramatically reduced cost.



KEY FEATURES

- GUIDED PROCEDURES
- READ/EXTRACT PIN CODES
- \cdot WIDE (EUROPEAN) VEHICLE COVERAGE

ADVANCED IMMO & KEY PROGRAMMING BUNDLE

- IM608 Pro 10" Touchscreen Android TabletXP400 PRO: Key & Chip Programmer
- MaxiFlash JVCI
- IMKPA: Key Programmer Adapter Kit

G-BOX2 KEY PROGRAMMING ADAPTER

- Expands Your Service to Include Mercedes & BMW Vehicles
- BMW DME/DDE ISN Reading/Writing in Boot Mode or Bench
- Includes Cables, Fuse Connector, and CAN Line Connectors Accessory item sold separately

APB112 SMART KEY FOB EMULATOR

- Collects data from ignition coil to identify troubles
- Decodes data of vehicle key chip
- Emulates vehicle key chip

Accessory item sold separately













Consumers may now be more aware of a hardware issue — and take advantage of it. **By Sal Dulcamaro**

Y ORIGINAL ARTICLE FOR THIS month was supposed to be my next installment of my series of articles about locksmith code programs. On February 4, I watched a video on YouTube that greatly concerned me and that should set off alarms for security professionals. As most locksmiths know, YouTube is filled with videos about every subject under the sun. Lock picking, opening and bypassing are among those subjects. Most such videos are of mediocre quality, and many are just faked and spoofed lock openings. However, there are quite a few that show real

methods demonstrated by people with often exceptional skills.

One such YouTuber is known as the LockPickingLawyer (LPL). His lock-picking skills are at a high level and, in my opinion, greater than many locksmiths. Mind you, I'm not saying his *locksmith* skills are high level. A locksmith does more than just pick locks and must have skills beyond picking. A very serious lockpicking hobbyist such as LPL can become quite good at that specialty skill.

For those who follow YouTubers who produce videos about lock picking, opening and bypassing, there are some who have reputations for legitimate skills and not just for being showoffs or fakes. One such person was known as "Bosnian Bill." When I tried to look up the identity of the LockPickingLawyer, all I could find was that his name is Harry (no last name identified), and that he was based in Damascus, MD (near Washington, D.C.) He is supposedly married and 38 years old as of 2021. According to what I read, he was inspired by Bosnian Bill and became a serious lock-picking hobbyist. He started producing videos on You-Tube in 2015 and now has more than



Figure 1. A New video on YouTube by the LockPickingLawyer shows the public how to exploit a weakness in certain commercial locks – giving you a business opportunity to install a remedy.

1,000. His videos show many ways to open locks, but the one from February 4 has me concerned.

The Concerning Video

This video is captioned "The Most Significant Security Flaw in North America," and is video #1409 on his account. *Figure 1* is a screen capture of the video on YouTube, and it shows two Adams Rite deadbolt locks designed for narrow stile aluminum doors commonly used on the storefronts throughout North America. The first reaction for many locksmiths might be, "Oh come on. Any amateur could just throw a brick through the glass in the middle of the narrow aluminum frame to get in. There is no security there." Well, that's true. There are many weaknesses in storefront doors, but some have more serious consequences than others. When I explain his tool and method, you'll understand what I mean. Breaking the glass is loud and messy and increases the chance of being caught.

Another serious weakness is the set screw that holds the lock cylinder in place in an Adams Rite deadbolt lock. More than 10 years ago, in a nearby city, nearly a dozen storefront doors were opened by someone who realized you could use a wrench to grab the mortise cylinder and forcefully unscrew it by breaking or bending the set screw. Once the cylinder was removed, the person just used a screwdriver or similar tool to actuate the bolt through the cylinder hole and unlock the door. I ended up installing cylinder guard rings on many doors that week.

The Weakness in the Video

The method demonstrated in the Lock-PickingLawyer's video takes advantage of a weakness in Adams Rite deadbolts that many locksmiths know about but was previously generally unknown to the public. I'm going to provide video timestamps so you can see what I am referencing throughout the article. Simply search on YouTube for "The Most Significant Security Flaw in North America."

He uses a stiff wire tool (*see timestamp* :40) that can directly actuate the bolt to unlock, while the door remains closed. No part of the lock gets broken and, for the most part, the method is not detectable to the casual observer. He started out demonstrating the method on locks that were just loose and not mounted on a door. The tool is kind of U-shaped, with sharp

corners rather than rounded like a "U," and the bottom of the "U" is very wide.

There are two ends of the tool because each side is used for a differently handed door. One side is for left-hand doors, and the other side is for right-hand doors. The tool is inserted in the gap between the door and frame alongside the lock body (*timestamp :52*). The tool is tilted inward into the body of the lock just in front of the bolt (*timestamp :54*). There is sufficient space between the bolt and the opening on the side of the lock where the bolt extends. Lift the tool upward and tilt it in the direction of the actuating pin that can release the bolt (timestamp :55).

Notice the almost smile-shaped slot just below the lock cylinder. That is the track that the actuating pin travels when either locking or unlocking the bolt. The narrow wire with the hook on the end can grab the pin and pull it downward. As you pull the tool downward, the bolt begins to drop (timestamp :58). The bolt continues downward with the help of gravity until the bolt is fully unlocked (*timestamp :59*).

The same applies with a right-hand door and lock (*timestamp 1:10*), only the opposite end of the tool is used. The tool is again inserted in the gap between the door and frame, and it's again tilted into the opening in front of the bolt (*timestamp 1:11*). This time, the tool is tilted to the right. The tool is lifted upward and further to the right to engage the mechanism (*timestamp 1:13*).

Pulling down on the mechanism releases the bolt, and it starts to drop (*time-stamp 1:18*). Gravity helps to pull the bolt further downward until the bolt is fully unlocked (*timestamp 1:19*).

He further demonstrated his tool on a lock installed in a door to show that it doesn't just work with the lock unmounted. The tool is aimed toward the edge of the lock in the door (*timestamp 1:34*) and inserted in the gap just in front of the bolt "There are many weaknesses in storefront doors, but some have more serious consequences than others."

(*timestamp 1:35*). The tool is lifted upward (*timestamp 1:36*) and then aimed inward and upward to engage the mechanism (*timestamp 1:38*). When the mechanism is actuated, the bolt starts to drop (*timestamp 1:39*) and continues downward until it is fully unlocked (timestamp 1:40). Obviously, it's a fairly simple tool made of narrow and very stiff wire that is thin enough to fit in the gap but strong enough to actuate the mechanism.

His final demonstration was with a closed door to show how the narrow tool fits in the gap between the door and frame. The gaps vary from door to door. In this case (timestamp 1:44), the tool fits with a bit of room to spare. Some doors will have a gap even wider than that. We all know that there are some doors that appear to have no gap at all. In that case, you might think the tool is useless, but anyone who's ever opened a car with the assistance of wedges knows that wedging a gap big enough for a narrow wire takes minimal effort. With the tool in the gap and tilted toward the mechanism (timestamp 1:45), you can also just barely make out the bolt that is holding the door locked. After the mechanism is engaged, the door is unlocked and opened (timestamp 1:52).

The Significance of This Tool – and Video

There are several major flaws in the Adams Rite deadbolts, but the flaw that this tool takes advantage of is by far the most significant on a few levels. The tool can unlock the door as fast as a key, with very little evidence of tampering. I have known about this flaw for well over 25 years. Many locksmiths have similarly known this fact for a very long time. But the public, for the most part, has not. I'm not sure how far and wide this information will travel and how long it will take for this information to circulate.

The issue I mentioned earlier — about people wrenching out the lock cylinder is relatively quiet and not obvious. However, the result is a removed cylinder and a damaged lock that an insurance company would recognize as a break-in. This tool leaves minimal evidence and would lead to a presumption that the lock was not locked.

Now, you can say the same thing about lock picking and the Lishi tools. Lock picking takes more skill than this tool requires, and the Lishi tools are much more expensive and keyway-specific. This tool will do the same thing to a lock with a moderate security pin tumbler cylinder and a high-security, pick-resistant cylinder. It is a bypass method, not a picking method. The flaw is in the lock regardless of the pick resistance of the lock cylinder.

The Remedy

There is a simple remedy to the flaw in the design of the locking mechanism. The trick to using the tool is to access the gap between the door and frame to get physically into the locking mechanism. A latch guard that covers and blocks this gap prevents the tool from entering the lock body to access the mechanism to unlock the bolt.

Some locksmiths might think I am overreacting to this flaw compared to

the other fairly numerous flaws in storefront locks and doors, but I think not for some very important reasons. Breaking the glass or wrenching the cylinder will leave obvious physical evidence indicating a break-in has occurred; there is no mistaking it. Lock picking either with standard picking tools or the Lishi tools also will leave minimal evidence of a break-in, but some skill or a somewhat expensive tool is needed.

The sheer number of people viewing this video might also scare you: The LockPickingLawyer has about 3.72 million subscribers to his YouTube channel, which is a serious number and nothing to sneeze at. But even more important is the number of views this video has attained: about 4.5 million views as of press time. Video number 1410 that was uploaded the day after this one had only 258,000 views by press time That is over 17 times as many views while only being online one additional day. Clearly, people are interested in this content.

Consumers Are Buying the Tool

Finally, there is one more thing that might make you a bit nervous: He is selling the tool he used on his Covert Instruments website, where he sells his tools and other products — and the "All I am saying is to be prepared. There is no realistic way of putting the toothpaste back in the tube, but this could also be considered a potential business opportunity."

Commercial Door Hook tool he shows in the video is sold out.

I have no way of knowing the future, but by the time you see this article in print, we may have some idea of the end results. I can't guarantee it, but I anticipate many more views of that video. It seems apparent that they can likely sell as many of those tools as they can make. The price isn't listed, but by the fact they are all sold out suggests that they can't be too expensive. After all, the tools are just bent and formed wire. If someone doesn't know what the tool is, it won't be obvious as a burglary tool. It looks like some kind of handle.

All I am saying is to be prepared. There is no realistic way of putting the toothpaste back in the tube, but this could also be considered a potential business opportunity. There must be hundreds of thousands if not millions — of storefront doors in North America, and I am certain that most of them lack latch guards. But remember: Solving the gap in the door to stop that tool won't stop wrenching out the cylinder if the metal plate that covers the gap doesn't also prevent the cylinder from being wrenched. Beyond that, it's up to you to persuade a customer about upgrading the pick resistance of the lock cylinder, too.

Editor's Note: Lockmasters makes a deadbolt tool similar to the one LockPickingLawyer is selling. @



Sal Dulcamaro started out in locksmithing in 1975 at age 17. He first practiced as a commercial locksmith before becoming an institutional locksmith in May 2014

for a large hospital. He has been a technical writer for more than 30 years, with more than 300 magazine articles published. He previously served as a contributing editor and a technical editor for Reed's Security Reporter.



Tabernacle

This client had the "keys of the kingdom," but they did not have the keys to this container. **By Tom Gillespie CML, CIL, CCL** ECENTLY, SHOP OWNER GENE GYURE AND I HAD A SURPRISE PACKAGE waiting for us when we walked in. After clearing our last job, we were notified that a customer had dropped off a container that was securely locked and had no keys. We simply needed to fit some keys and call the customer when it was ready.

On our front counter was a large cardboard box with layers of bubble wrap and a large, ornate, gold-plated vessel known as a tabernacle. It was quite unlike anything we had serviced be-fore. According to Catholic.com, a church tabernacle is "a liturgical furnishing used to house the Eucharist outside of Mass. It also helps prevent the profanation of the Eucharist. Thus the law requires, 'The tabernacle in which the Eucharist is regularly reserved is to be immovable, made of solid or opaque material, and locked so that the danger of profanation may be entirely avoided.'" A container for the same purpose that is set directly into a wall is called an aumbry. This was obviously a very expensive security container. Google searching revealed similar examples that cost \$5,000 to \$40,000. Starfleet Lock & Safe shop manager Amanda told us a group of nuns showed up with this in the back of their car. They'd purchased it on eBay and recently received it, but the keys were not found. The seller thought the keys were sent with the unit and promised to "look around to see if I can find them," but had failed to follow through. Could we please help? We were still out on a job, so Amanda called her husband Kyle (who was close by), and he helped to muscle it inside. She assured the nuns we would call them as soon as it was ready.

Following is how we accomplished the job.



Figure 1. Special Handling. This was obviously an expensive piece of religious hardware that required a great deal of care and respect while in our care. The group of Catholic nuns that delivered it to us was assigned to a newly remodeled convent and needed to put this tabernacle into use in their chapel as soon as possible.



Figure 2. Vintage Cylinder. The cylinder was clearly identified as a Reading brand and had a paracentric keyway — where one or more of the side wards protrudes past the vertical centerline of the keyway. The purpose of a paracentric keyway is to make it more difficult to maneuver a lock pick and reach pins. The Reading Hardware Corporation was originally based in Reading, PA, and has been associated with Penn Lock Company, which is also based there. Both companies have been out of business for more than 60 years.



Figure 3. It Won't Pick. Shop owner Gene Gyure quickly began to manipulate the lock, trying rotation in both directions. It seemed to want to pick clockwise. But after a few false sets, it wouldn't yield, almost like there were security driver pins. He then noticed that probing with a pick deeper into the keyway produced a spring-loaded response. While I held a probe and pressed inward, he picked and immediately noticed the keyway began to turn very stiffly.



Figure 5. Alarm Switch. One of the first things we noticed was a wired contact switch mounted on the lower left side of the framework. The sacred contents of this container were obviously important enough to warrant added protection.



Figure 4. Curved Door. As Gene applied more clockwise rotational pressure with the tension wrench, the curved door didn't swing open. It began to retract into the inner wall of the tabernacle. As it opened, it revealed a decorative white satin lining with multiple religious symbols and designs. Once the door was fully turned, we heard a resounding "clunk" as the spring-loaded latches secured it.



Figure 6. Base Cover. With the door open, it was clear that some disassembly would be required to access the lock in the lower base assembly. First, we had to remove the delicate cover material.



Figure 7. Multiple Screws. We found a total of seven screw positions, but only five contained screws. The screws in the curved polished top plate were the first ones removed. Although the plate was now loose, it wouldn't lift out.



Figure 8. Lining Retainer. Because the alarm contact switch overlapped the top plate edge, we had to remove the brass edge strip it was mounted on first. In doing so, Gene noticed that the entire decorative interior lining needed to be removed too since it overlapped the dark steel floor plate.



Figure 9. Inside Lining. Slow and careful outward movement on the white satin cardboard-backed material allowed the lining to removed and set aside.



Figure 10. Cedar and Asbestos. With the lining out of the way, an interior construction of cedar strips was revealed. The strips had been secured with a gluebacked paper tape — except for the first position, which revealed an asbestos lining that provided some protection to the contents in event of fire. Extra caution was used to avoid touching or disturbing this material.



Figure 11. Base Plate. The steel base plate was then lifted, revealing an intricate gear-driven mechanism that rotated the door to the open position as we turned the key's plug. Brass, bronze, steel and castiron segments were aided by ball bearings to produce a smooth, yet silent, operation.



Figure 12. Decorative Plates. Before we could remove the lock cover plate to gain access to the lock cylinder, the decorative side panels had to be shifted by removing the lower screws on each side of the opening. The upper screws were loosened but not removed. This allowed the panel to shift enough to remove the lock cover plate.



Figure 13. Cover Plate. By removing the cover, we got a closer view of how the entire mechanism interacted with the simple pin tumbler lock cylinder.



Figure 14. Lock Revealed. The Reading lock cylinder is secured in the bracket with slotted set screws on either side. Loosening these screws allowed slight movement, but the cylinder body would not come out.



Figure 15. Reference Marks. Before any other parts were disturbed, it made sense to make some reference points for aid during reassembly. We noted that these reference marks were related to the cylinder being turned (picked) in the fully open position. If reassembled incorrectly, the timing of the gears would not allow proper operation.



Figure 16. Spring-Loaded Arm. Shown here is the springloaded arm that was pushed back by the probe as the lock was being picked to the open position. If this arm was not pushed into the retracted position, the lock cylinder would only turn slightly past the shear line. This is what was causing the earlier picking attempts that felt like we were dealing with spool or security top pins.



Figure 17. Lock In Hand. The two mounting screws holding the bracket were removed, and the lock mechanism was in hand. The pin projecting from the rear of the gear assembly is what depresses the spring-loaded arm, allowing the key to turn.



Figure 18. Pin Contact Point. The circular spot in the center of this photo is the contact point for the pin. When the key is inserted, additional pressure is required to push against the pin — which pushes against the arm — to allow the key to fully align with the pin tumblers and achieve a shear line. Only then will the key rotate to the unlocked position.



Figure 19. Linkage Rod Arm. Further inspection revealed that the arm was attached to a lower latching mechanism and a linkage rod running to the top of the tabernacle that secured the door with an additional upper latch.



Figure 20. Gear Assembly. With the projecting pin removed, the screw holding the gear was removed from the rear of the lock plug. This gear also served as a retainer to hold the plug from pulling out when the key was turned. No slight screw cap adjustment with this setup; it either lined up properly or it didn't.

Business

Educa

NonTech



Figure 21. Plug Access. With full access to the plug — still in the picked and turned position — we selected and inserted a small-diameter follow tool. The bottom pins, upper pins and driver springs were removed and placed in order in a pin tray.



Figure 23. Key Modification. Dusting off one of the few the "Reading/Penn" hooks on our keyboard revealed a small handful of Taylor 75D key blanks. We proceed cautiously because we had a limited supply of them. The standard blank is on the left, but a problem arose that required us to modify the blank by completely removing the bottom shoulder, shown on the right.

Per KBX

uto SafeTech Elec-Comp

Taylor 75D = IIco 1019D

Per Framon, ...Reading 1019D

Mfgr:	Reading	Depths
Series:	Standard	0345
Blanks:	1019, 1019D, etc.	1330
Cuts St	art at: .200	2315
Spacing	.155	3300
Block #:	2	4285
Incr:	.015	5270
No of S	paces: 5 or 6	6255
Spaces:	. 200, .355, .510, .665, .820, .975.	7240
		8225
		9-210

Figure 22. Online Information. We quickly realized the beauty of sharing information by posting a few questions online. Between using ClearStar Network, NSO, Locksmith Nation and KBX.com, a wealth of information was revealed. Our thanks go out to all our colleagues who assisted with details and related photos, including Larry Bennett, David Brooks, Doug MacQueen, Mark Ellison, Greg Perry and Randy Main, among others who offered advice and photos.



Figure 24. Recessed Plug Face. The deep recess on the plug face was required to achieve the extra inward movement of the key as it pushed the spring-loaded arm. This, in turn, made the top and bottom latches able to retract, allowing the door to open. The bottom shoulder stopped the key even with the original plug face, leaving a gap between the top shoulder and recessed point of contact.



Figure 26. Maintain Existing. Because the nuns had faith that the seller would eventually send them the original keys once located, they asked us to fit keys to it "as is" instead of rekeying it to a new set. We prepared a blank by slightly marking the spacing in the reference material and reinserting the bottom pins.



Figure 25. HPC Chart. HPC's Depth and Spacing chart referenced all information needed to produce a working key with our 1200CM machine and micrometer cards.



Figure 27. Spacing Alignment. Once the blank was marked with a Sharpie and the space locations were generated, looking closely into the pin chamber revealed that the spacing was misaligned from the chamber. That recessed plug face noted above meant the spacing had to be altered.

INAL CURTIS PCH INSERTION REI RH 32 RE2 RH 601 RE6 RH 601 RH							
1	DEPTHS SPACES						
h	INCH	MM		INCHT	MM		
0	.345	8.75	1	.200	5.10		
1	.330	8,40	2	.355	9.00		
2	.315	8.00	3	.510	12.95		
3	.300	7.60	4	.665	16.90	1	
1	.285	7.25	5	.820	20.85	1	
1	.270	6.85	6	.975	24.75		
T	255	R 40	7	Statistics)	S TREETON		

Figure 28. Subtract 40. With a limited number of blanks available, we decided to carefully measure. By subtracting 0.040" from the printed information, the correct pin chamber alignment was attained. Since the key went deeper into the plug, this moved the cuts closer to the top shoulder.



Figure 30. Replace Pin. With the gear reinstalled, we reinserted the pin. The lock was ready for a test fitting to ensure it worked properly.



Figure 29. Ready to Cut. The first cut was made at 0.160" instead of 0.200", and the rest were likewise adjusted. With cuts of 4-2-4-2 made, the lock was fully reassembled. The driver springs were replaced with new ones, but the drivers and bottom pins were reused as requested. The key turned smoothly, and needed no further adjustment.



Figure 31. Test Fit. With the key turned to the fully open position, the lock was held in place at the alignment marks, but the formerly "smoothly turning" key didn't turn at all. It stayed firmly turned to the right.



Figure 32. Doesn't Work. Gene then noted that while the key turned easily when the lock was in hand, the tip of the key was not pushing the projecting pin out far enough to move the spring-loaded arm inward and release the top and bottom latching mechanisms.



Figure 34. Bronze Runner. Making a longer pin was relatively simple, but the material was something to consider. The original was bronze, but where do you find bronze rod on short notice? Gene remembered that he had purchased some rough cast "Number 9" railroad padlock key blanks from good old Randy Main a few years ago. These came on a runner (skeletal frame) with the cast blanks attached. Simply cut off the blanks and throw away the runner — but Gene doesn't throw things like that away.



Figure 33. Pin Is Short. The culprit was either that the existing pin or the key blank was too short. We used a hook pick to determine the added length required. Approximately ¹/₄" in length could be gained in one of two ways: a longer blank or a longer pin. Because we had limited blanks available, we decided against cutting the top shoulder back that far.



Figure 35. Casting Process and New Pin. In casting, the molten material poured into the sprue flows down the runner through gates to fill each empty cavity and form the blank. It provides enough pressure to make the liquid metal overcome all kinds of flow resistance under the action of gravity and fill the cavity within the specified time.

Gene emerged from his workshop and handed me the newly machined bronze pin. We checked this new extended pin for proper operation on a second test fit, and it provided smooth operation of the full mechanism.



Figure 36. Duplicate Keys. Knowing we were on the right track meant we could use the few remaining Reading blanks to provide the requested duplicate keys. We cut and checked additional keys, and the reassembly could proceed.



Figure 38. Reverse The Process. The reassembly process progressed rapidly, with the lock assembly, lock cover plate, inner steel base plate, inner wall cover material, decorative side plates, alarm switch plate and bottom cover material put back in their original positions.



Figure 37. Ready For Reassembly. All the various parts were relocated to the front counter because the customer was anxious to collect this religious vessel. All parts were wiped clean of any residue or dirt.



Figure 39. Here They Come. Within 10 minutes of job completion, the nuns were notified and soon arrived to inspect the tabernacle. We explained that although we had matched the original key cuts, if the "original keys" were found, they might not work. This is because we had to alter the projecting pin length. She said that likely wasn't a problem because they were never able to get a hold of the seller.



Figure 40. Try The Key. The Mother Superior tried the keys but struggled during her first few attempts. After being shown that the key had to be fully inserted and held against the springloaded pressure before it would turn, she successfully mastered the action, and the gold-plated curved door disappeared. Because it came without keys, she had never seen the inside. She was quite pleased with their purchase. When they mentioned they were taking it to a local jeweler to have the gold plating polished, she asked about getting the keys gold-plated. We advised that doing so would add a layer of plating to the key surface, which could cause the keys to cease operating. We advised against it but left the decision up to her.



Figure 41. Heavy Lifting. Because this sturdily constructed unit was built like a safe, its weight was similar. The nuns had brought with them the contractor who was remodeling parts of the convent. With the assistance of his helper, he hoisted it up and walked out the door.

The world of the locksmith has always been fascinating because of the wide variety of challenges we encounter. Like most shops, we enjoy the prospect of doing something different or encountering a lock or locking mechanism that is new to us no matter how old-school it actually is. Our shop regularly encounters antique, vintage or unusual hardware that other shops can't or won't attempt to work on for a customer. With few exceptions, we jump in and do our best. The ability to share information and photos online with our colleagues through social media has expanded our abilities, and articles in our trade publications expand that knowledge and experience to even more technicians.

When "It Can't Be Done" turns into "Here's How I Did It,", tell the rest of us locksmiths and safe techs the story with photos and text in Keynotes or Safe & Vault Technology magazine — and earn some extra money for sharing your story! Some days, nothing on a job goes as planned. Those turn out to be the most interesting (and sometimes frustrating) jobs we encounter. Think on your feet, do some research, find a solution and then share it. For information, contact editor@aloa.org. @



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. When you don't have the exact replacement, sometimes a near-match can be modified to fit. By Rick Karas, RL, CFDI, AFDI

H, MAN... NOT RIGHT NOW! MY PHONE SHOWED THE NOTIFICATION "Cannot Take Photo ... There is not enough available storage to take a photo." Things always seem to happen at the wrong time. I was in the middle of a job and trying to take a photo when I saw that message, and I just did not have time to deal with the phone

at that moment. A day or so later, I decided to take care of my phone's storage problem. As I was going through my photos and deleting them to free up storage space, I came across a few photos that I had taken on a job a while back. I had forgotten about taking the photos, but I had not forgotten about the job. As a matter of fact, I remember this job well.

The Call

Late in the day one Friday, I got a call from a gentleman who said he had met me a while ago and kept my business card. He told me that his office door would not lock and that he needed to be able to lock it before he headed home for the day. I do remember that he seemed fairly calm about the situation. There was no real sense of urgency in his voice, which led me to believe that it was probably something simple. I was also in a bit of a rush trying to close things out for the weekend. I figured that I would just squeeze one more job in for the day. Sometimes, however, the juice isn't worth the squeeze, and perhaps I should have known better.

Generally, I usually try to get as much information from my clients as I possibly can. This time, however, I just got the basics: name, address and the phone number that he called me from. I know better and should have asked more questions and gotten much more information. This is what I would call a rookie mistake (inexcusable, as I am definitely not a rookie!). In taking on just one more job and not having all the information, I decided that I could guess what the problem was. I don't know why, but I just figured that he had a door alignment issue, and it was probably just improper latch/strike alignment. I guess it was the calmness in his voice that made me believe that he did not have a bigger problem. I should have known better, but I was only 15 minutes away from his building and thought that I could quickly pull off just one more job for the day. I told him that I would be right over.

What's Going On?

When I arrived at his office door, I noticed that there were metal shavings on the floor and that the lock cylinder had been drilled (see *Figure 1*). I thought to myself, "What the heck? What's going on here?" I opened the door, and my client was sitting behind his desk. I asked him what was going on with his door lock. Was there another locksmith

or somebody currently working on the lock? I remember the days when I did auto lockouts and the client would call a bunch of locksmiths. We would all arrive at the same time, and the first one there got the job... not a very cool thing to do! So, was this the case now? The situation did not sit too well with me. Did I just set myself up by not following my own protocols and getting a credit card before rolling out to do the job? I have systems in place just for occasions like this so I would not get burned. Oops. I may have just goofed up!

I immediately felt a bit deceived as if he purposely did not give me the entire story over the phone. On the other hand, I did not ask all the questions that I usually do to acquire all the pertinent information for a job. So, honestly, I can't really blame him entirely because it was just as much on me; I didn't ask questions and get all the proper information about the job before arriving on site.

The Entire Story

Now that I was at his office, he told me the whole story. He was locked out of his office in the morning and called another locksmith company. The locksmith told him that the only way to open the lock and get him into his office was to drill out the cylinder. Once the lock was drilled out and the door open, the client was told that the replacement of the lock was his only option and that the lock could not be repaired. He was given a verbal quote to replace the lock. He told me that the price was too high and declined to have that locksmith replace the lock because he felt like he was being ripped off. He told me that he was not happy with the work or the invoice from the other company.

He was grilling me with questions about the pricing from the other company. I told him that I could not speak for the other company, and that was between him and that company. It was really none of my business. Trying to put all the pieces together, I had a few questions: Why did he not call me in the morning if he had my card? He told me that my card was in his desk drawer in his office, and he could not remember my company's name, so he found a locksmith on the internet. He told me that he chose the company because its prices seemed low, and it did not charge a trip charge.

I let him know that had he called me first, I could have opened his door using nondestructive entry techniques and could have made keys to his lock without having to drill it. Of course, I did not tell him the techniques because I did not want to get involved with him complaining to the other company about what I had said. You know, "he said, she said" kind of stuff. However, it certainly would not have been much of a challenge to open his office door. If the lock was not pickable, two quick options that come to my mind would have been to use my under-the-door lever opening tool or my Lever Handle Removal Tool to remove the lever handle, open the lock and then make a key.

Pile of Shavings

So, there I was standing in a pile of shavings from a lock cylinder that has been drilled out, and I had finally just processed what was going on. I had two choices: My first and easier choice was to pick up my tool bag and leave, telling him to call the company back to take care of it (but, of course, that would never cross my mind to actually do). My second and proper choice was to use my head to try to help this guy out. Because I was already there and in the middle of his problem, I decided on the second choice; I would help this guy out. Put simply, the choice was to either leave without pay or figure



Figure 1. The lock cylinder had been drilled.

something out and get paid for my time. It certainly was a no-brainer to me.

Time to Make a Plan

The cylinder was still in the lever, and it was getting later than I'd like on a Friday afternoon. I remember thinking about rush-hour traffic around the Washington, D.C., metro area — especially the fact that the Beltway starts to get congested after 4 p.m., and I pretty much do anything to avoid it. I got past thinking about that and decided to march on.

As I walked through the building, I noticed an eclectic array of locks and keyways throughout. However, it appeared that his office suite consisted of about four or five doors using the same style of lock. To me, it looked to be a Sargent 10 line cylindrical lever lock with a J-style lever (*Figure 2*). The doors were all next to each other, and installing a different brand or style of lock would have looked a bit off.



Figure 2. The author thought it looked to be a Sargent 10 line cylindrical lever lock with a J-style lever.



Figure 3. You can see where the drill bit must have gotten away when the lock cylinder was drilled and left a little notch in the handle.



Figure 4. The cylinder was completely drilled out.

First Things First

First things first: I wanted to know if the lockset was still functional or if had it been ruined when the lock cylinder had been drilled out. When possible, I always try to repair a lock. I figure if the lock is still in good condition and is repairable, then it's a disservice to the customer to sell them a new one — especially if I have the part with me that will repair the lock. I don't feel it's ethical to sell a client something new just because I don't want to fix what they have. I have always had more job satisfaction from repairing locks whenever I can.



Figure 5. The cylinder appeared to be a Sargent Conventional C10-1 standard cylinder, like this one from the author's shop.

On to the investigation. Whoever drilled out the cylinder may also have drilled out some of the lever handle, and who knows what else they may have mistakenly or accidentally drilled out? If you look closely in *Figure 3*, you can see where the drill bit must have gotten away when the lock cylinder was drilled and left a little notch in the handle. I removed the lock cylinder and all the metal shavings and debris from the lock. Then I checked to see if the lockset was functioning properly, and luckily it was. So, I knew that the lockset could still be used, but the question then was the cylinder.

Drilled-Out Cylinder

The cylinder was completely drilled out — wasted, gone, toast — and I knew that I was not going to be able to use it (*Figure* 4). The cylinder appeared to be a Sargent Conventional C10-1 standard cylinder. *Figure* 5 is a photo of the Sargent cylinder I took in my shop so you would know what it looks like. Unfortunately, I did not have one on my service vehicle the day of this job.



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Figures 6 and 7. You can see the similarities between the Sargent and Arrow cylinders.

Identical Cylinder... Sort Of

I needed a cylinder to fit into the lever handle. Sargent cylinders are specif-. ic to the Sargent lock line they belong to, so there are many different types of cylinders. I was pretty sure that I did not have any Sargent cylinders in my service vehicle that would properly fit the lever, but I looked through a bin of spare cylinders. Just as I had thought, I did not have an exact Sargent replacement cylinder. I knew that I had some cylinders that were similar, so I kept digging around, and Eureka - I found an Arrow cylinder that had a similar look and dimensions as the Sargent cylinder. Normally, I would have been concerned about using a different keyway because I would not want to compromise a building's master key system. However, the building was a bit

older and had different brands of locks throughout, and I knew that my customer's locks were not part of a master key system. I decided that I would give the Arrow cylinder a shot. The similarities between the Sargent and Arrow cylinders can be seen in *Figures 6 and* 7. These are cylinders that I had in my shop that I took photos of to show the similarities between the two brands.

Arrow for Sargent?

At a quick glance, the Sargent cylinder and the Arrow look like twins. However, they are not; they're more like fraternal twins (*Figure 8*). There are slight differences, the most pronounced difference being the noticeable difference in the circumference of the face of the cylinder plug. The face of the Arrow is much larger in diameter than the face of the Sargent. The Sargent cylinder is on the left and the Arrow is on the right. (*Figures 9 and 10*). Figures 8-10 are photos of cylinders taken in my shop.

Modification

I decided that the Arrow cylinder should work if I could get it installed into the lever handle properly. As I was installing it, I noticed that the bible on the cylinder housing was rubbing on the sides, making it difficult for the cylinder to be inserted. Rather than forcing the cylinder into the lever handle, I decided to slightly file the sides of the bible down so that it could be inserted without force. Unfortunately, I don't have a photo of this, but I do have a photo of both cylinders (in my shop) next to each other. You can see the slight difference at the top side portion of the bible (*Figure 11*). I did not have to take much



Figure 9



Figures 8-10. These are the Sargent and Arrow cylinders in the author's shop. In Figures 9 and 10, the Sargent cylinder is on the left, and the Arrow is on the right.



Figure 11. You can see the slight difference at the top side portion of the bible.



Figures 12 and 13. The author used a hand file to slowly file around the circumference of the face of the cylinder plug.



Figures 14 and 14a. The author wrote the word "MOD" (for modified) on the housing of the bible so that anybody working on this lock in the future would know it had been modified.

off the side of the bible, and that little bit of filing on it really helped.

Now that the cylinder was inserted into the lever handle, the face of the Arrow plug would not allow the cylinder to be fully inserted into the lever. Because the diameter of the Arrow cylinder's face was larger than that of the Sargent, I was left with two options.

Option A: Enlarge the opening in the handle by enlarging the diameter to accept the face of the Arrow cylinder plug. This would surely be a quick solution, and I knew that I could accomplish this task very quickly with my Dremel tool. However, I decided against taking this route. Once the material was removed from the handle and the diameter enlarged, then an original Sargent cylinder would never fit properly again; there would be too much of a gap (slop) around the face of the plug. I did not feel this was the professional and appropriate way to take care of the problem, and I immediately dismissed this idea.

Option B: Make the face of the Arrow plug the same diameter as the Sargent. In other words, make the diameter of the Arrow plug's face smaller. Of course, this option would not be nearly as easy and quick as Option A, but I chose this option so that a Sargent cylinder could later be installed into the lever handle if needed. *Important Note: If you do this, make sure that the face of the cylinder is always slightly larger than the plug so that it cannot be shimmed from the front.

The Cylinder Modification (MOD)

To make the modification on the face of the Arrow plug, I removed the plug from the housing and all the bottom pins just as if I were rekeying the cylinder. I used a hand file to slowly file around the circumference of the face of

the cylinder plug until it was as close as I could get to the diameter of the Sargent (*Figures 12 and 13*). I filed off only what was needed and not any extra. After I had the face of the plug at the circumference that I wanted, I reassembled the lock cylinder. I wrote the word "MOD" (for modified) on the housing of the bible so that anybody working on this lock in the future would figure out that it had been modified (*Figures*)

14 and 14a). By the way, I only had one Arrow cylinder with me, so I only had one shot at making this work. I took my time filing with great care.

Arrowgent!

I tested the keys and the cylinder to check its operation, and it was working and operating fine. I wanted to make sure that my filing had not caused any sort of bind on the face. I installed the



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Figures 15 and 16. The author used the ASSA ABLOY resource libraries for this job.

newly modified cylinder into the lever handle of the Sargent lock and installed the lever handle back on to the lockset. The lock worked fine with the Arrow cylinder. However, I informed my client that even though the lock was working fine, that this was meant as a temporary solution so he could lock up for the evening. I wanted to come up with a name for this Frankenstein of a lock, so I named it the "Arrowgent" lock!

I recalled this job thanks to my old phone and the photos that I was getting ready to delete. Now, I will keep this little trick from the job in my back pocket in case I ever get into a similar situation in Rick Karas, RL, CFDI, AFDI, started in the locksmith industry in 1983. A licensed locksmith, he has experience with many physical security

disciplines, including access control systems, intrusion detection systems and video monitoring systems. He works in both commercial and institutional settings. Rick owns Phil-Rich Lock, which serves the Washington, D.C., metropolitan area.

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Sandbagged

Sometimes, your plans for the day get derailed. **By Tony Wiersielis, CPL, CFDI**

AVE YOU EVER HAD ONE OF THOSE DAYS WHERE YOUR PLANS GET stepped on? I usually call that getting "sandbagged." That happened to me today at that college in Manhattan I'm always writing about. I've been going there one day a week instead of my usual Monday-and-Friday gig because the students are still on break and not around to cause trouble.



Figure 1. There was a cylinder hole in the door, but BEST mortise passage locks presume no cylinder will be used.

When I arrived at the shop this morning, I got a text about some priority work orders I needed to get done: keys to be cut and dropped off, some cam locks changed out and an issue with an IC core. My shop happens to be next to the new building superintendent's office. When I passed by, he asked me to take a look at the loading dock door and the ladies' room on the first floor.

The door at the loading dock is an interior door that opens into the lobby. I've been putting Band-Aids on it for a few years now, and the new super was trying to spruce the place up. The lock was a mortise lock that was basically used only as a handle: The latch was jammed in, and other parts — as I later found were broken. The most obvious thing was the levers hung down vertically because the hubs were messed up. The cylinder was just an ornament.

In the shop, I found a chassis from an old, electrified lock that had burnt out, so I installed that, intending to use the old trim parts. There were two issues: First, the hubs on that one were shot, and the levers drooped. Second, the old trim parts were beat up. The super had just painted the loading dock and preferred something new.

I grabbed a new passage lock, but there was another issue: There was a cylinder hole in the door. BEST mortise passage locks presume no cylinder will be used (see *Figure 1*), so there's no provision for securing one in place. I had to take the cover off the chassis to remedy this. *Figure 2* shows the necessary parts — the yoke, the screw



Figure 2. The necessary parts - the yoke, the screw and the threaded block - are in place.



Figure 3. The cover is on.



Figure 4. The door had about 20 coats of paint on the dummy cylinder.

and the threaded block — in place. *Figure 3* shows them with the cover on.

If there's no yoke included in a passage set, where did I get the parts I needed? Here's some wisdom: Whenever I have a damaged or worn out 45H chassis, I always take the yoke and related parts out before I scrap the rest of it. I think I have 10 sets of these parts sitting on a shelf in



Figure 5. A BEST 35H chassis is shown.

my shop. This is something you might want to consider doing.

The Ladies' Room

This was another issue with a failed lock. *Figure 4* shows the outside of the door with about 20 coats of paint on the dummy cylinder. Take note of the spindle: The sucker wouldn't come out no matter



Figure 6. Here, you can see the inside rosette and rose ring.

what I did. *Figure 5* shows a different view and a BEST 35H chassis. More on the differences later, but it suffices to say the 35H was the precursor to the 45H. Old hardware.

Figure 6 shows the inside rosette and rose ring. I tried to use my spanner wrench to unscrew the rose ring, but it rotated without unscrewing. Something

BACK TO BASICS Sandbagged



Figure 7. The author is cutting into the ring.



Figure 8. The cutting is completed.



Figure 9. Half of the ring is broken off.





Figures 10 and 11. The threaded part the rose ring was screwed onto was spinning rather than being solid and stationary as it should have been.



Figure 12. The author had to cut the spindle off.



Figure 13. The chassis is out of the door with the remains of the outside spindle still in it.

inside was broken, and I needed to get it off. *Figures 7-9* respectively show me cutting into the ring, the cutting completed and half of the ring broken off.

Look closely at the threaded part in *Figures 10 and 11* and the cuts I made



Figure 14. The cover on the chassis is loose enough for parts to fall out of place.

in it. You can see that the threaded part the rose ring was screwed onto was spinning rather than being solid and stationary as it should have been. This is why I couldn't get the ring off. This part on a 45H would be called a "spring cage," but



Figure 15. The cover is removed, and the broken parts have collected at the bottom.

the 35H had no springs. You'll see the difference shortly.

I still couldn't get the chassis out of the door because of the stuck outside spindle, so I wound up cutting it off, as you see in *Figure 12*. Incidentally, at the start of



Figure 16. The debris is shown up close.



Figure 17. The cut-off spindle is still in the outside hub.



Figure 18. This image shows why the author couldn't pull it out from the outside of the door.



Figure 19. The 35H is on the left, and a 45H is on the right.

this ordeal, the inside lever was hanging down vertically with the spindle barely engaged in the hub. *Figure 13* shows the chassis out of the door with the remains of the outside spindle still in it.

Figure 14 shows the source of some of the problems: The cover on the chassis is loose enough for parts to fall out of place. *Figure 15* shows the cover removed and the broken parts that collected at the bottom. *Figure 16* provides a close-up view of the debris. It's a wonder anything worked.



Figure 20. The instructions are engraved on a 45H on how to use a screwdriver to change the hand of the latch bolt without opening the chassis.

Figure 17 shows the cut-off spindle still in the outside hub, and *Figure 18* shows why I couldn't pull it out from the outside of the door. I suppose this was a bit of twisted genius in keeping the outside lever on. In the end, it certainly would have been better to replace the lock when the trouble first started. Rube Goldberg would have been proud. For you younger folks, Google that name, look at the cartoons and you'll get the idea.



Figure 21. The 35H here requires you to open the chassis.

35H Versus 45H

Figure 19 shows a 35H on the left and a 45H on the right. You'll notice that the latch bolt on the left has an anti-friction component, and the one on the right is solid. Actually, look back at Figure 1 to get a better picture of the solid bolt.

Figure 20 shows the instructions engraved on a 45H on how to use a screwdriver to change the hand of the latch bolt without opening the chassis. The 35H in Figure 21 requires you to open



Figures 22 and 23. These photos show the difference in the way the cylinder is locked in place for each chassis.



Figures 24 and 25. These images show the hubs on both chassis.





Figure 26. This photo shows the difference in thickness of the rosettes.



Figure 27. You can see the actual springs inside the 45H "spring cages" on the right, which accounts for the extra thickness.



Figures 28-30. Someone had hammered and then drilled half the screws away, causing the screws to jam. The author used a Dremel to cut off the heads of the screws close to the inside mounting plate.

the chassis to do it, which is always a thrill. *Figures 22 and 23* show the difference in the way the cylinder is locked in place for each chassis.

Figures 24 and 25 show the hubs on both chassis. The silverish H-shaped part on the 45H slides up to lock either hub by loosening the Phillips head screw and sliding up. Sliding it down puts it in the unlocked position. What's nifty about this is that you could slide both up and — depending on the chassis have an "asylum" function in which neither lever moves, and a key is required on both sides. Conversely, if you slide both down, you'll have an instant "passage" function. You may have guessed the 35H requires opening the case to switch the hubs.

Figure 26 shows the difference in thickness of the rosettes. The 35H is on the top and is much thinner than the 45H on the bottom. The reason is shown in *Figure 27*. You can see the actual springs inside the 45H "spring cages" on the right, which accounts for the extra thickness. These springs assist the hub springs in keeping the levers horizontal.

When the HVAC Guy Is on Call...

Figures 28-30 show what happened at that other college in Pennsylvania. The guy tried hammering and then drilling out the mounting screws. He should have tried drilling first, but as it turned out, he drilled half the screws away instead of hitting them dead center. This caused the screws to jam so tightly that I couldn't unscrew them. I used my Dremel to cut off the heads of the screws close to the inside mounting plate; you can just see where I started cutting off the left screw



Figure 31. A couple of scar plates and a new deadbolt cleaned up the mess.



Figure 32. This photo shows the hole the author drilled.



Figure 33. The length of the black pin shows how deep the drilling went.

head in the last picture. A couple of scar plates and a new deadbolt cleaned up the mess (*Figure 31*).

A Trick and a Cool Pic

Figures 32-34 show a neat trick that can make drilling out a jammed BEST-type IC core a bit easier and with less mess. In this case, the change/operating key, the control key and the GM would not turn in the core. Lubricating and tapping the lever to possibly loosen a stuck pin accomplished nothing.

Using a hook pick, I found that the stuck pins were in the seventh chamber, which is the one closest to the face of the core. I started to drill, and it occurred to me that if I went through that chamber and stopped, I might be able to pull the core with the control key. I went a little further and took out the sixth chamber as well.

Figure 32 shows the hole I drilled, and in *Figure 33*, the length of the black pin I'm holding shows how deep I went. It worked. *Figure 34* shows the core out and



Figure 34. The core is out, and the change key is still operating.

the change key still operating. I built a new core and replaced it. Obviously, this is only going to help if the stuck pins or broken/ crushed springs are close to the face of the core. If they aren't, you might as well just drill all the way.

I recently had some help from my friends at Main Lock in Hackensack, N.J. Hanging on their wall to the left is its Yellow Pages ad from long ago, and on the right is the actual plate used to print it (*Figure 35*). For the younger folks, "DIamond 2-0530" is the company's phone number, which translates to 342-0530. The "DI" refers to the numbers on the dial or buttons. The word "Diamond" refers to the building or street where the telephone lines originated, and this was called an "exchange." When I was a kid, my number was HEnderson 5-4474, and the building was on Henderson Street in Jersey City. I think it still is. *Postarea and the starea an*



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ΕΤΙΜΕ



Figure 35. Main Lock in New Jersey has artwork made from their long-ago Yellow Pages ad and the plate used to print it.



Designed by a Locksmith

Return of the Pod People

By Jim Hancock, CML, CMST

F YOU ARE OF A CERTAIN AGE, THE TITLE MAY HAVE ELICITED A VISION OF Donald Sutherland (that would be Keifer's dad for those of you of another certain age) staring wild-eyed at a young colleague. And this colleague has a tilted neck, with an arm and finger extended into a menacing point, screeching a warning to the rest of the pod people or body snatchers that she was still human... or maybe it's just me.

But the pod people I am referring to is the team that puts together the ALOA Podcasts, not alien creatures (though there may be a few guests that seem otherworldly). ALOA Education, Host William Lynk and ALOA Board Member Tyler Thomas — after a breather to catch up on other business issues — have relaunched the very popular *Locksmith Talk With ALOA*.

This industry podcast, launched during the height of the pandemic, became a go-to for many members and nonmembers alike as William Lynk (the man, the myth, the legend) chatted with some of the industry's brightest and best on subjects ranging from investigative locksmithing to healthcare facility security concerns to the intricacies and pitfalls of master keying. The podcasts started out at 15 to 30 minutes in length and rapidly grew to one-hour shows. And, being podcasts, they can be downloaded and listened to at any time and reviewed over and over.

The relaunch (available at your favorite podcast provider) will be a bi-monthly offering for the first five episodes as we hear from the various division presidents about training, testing, certifications and more in this calendar year and beyond. We are most excited to hear from Ed Woods, the president of the newly formed International Association of Automotive Locksmiths (IAAL), which is dedicated to all those professionals who keep America rolling (the IAAL slogan by the way: "IAAL, Locksmiths That Keep America Rolling"). The next four feature SAVTA President Mike Potter, John Truempy with ALOA Institutional Locksmiths (IAIL), Brian Van-Denburgh with International Association of Investigative Locksmiths (IAIL) and, finally, ALOA President Bill Mandelbaum and ALOA Executive Director Mary May on the future of ALOA through and after the pandemic.

After these episodes, the podcast will be monthly. Many of the industry's best will discuss their areas of expertise, the world of locksmithing, anecdotes and maybe insider info on some of the world's greatest mysteries like:

- How do the Amish make and test microwave popcorn?
- Why was "New Math" devised when the Old Math worked just fine
- If you get told everything tastes like chicken, what does chicken actually taste like?

"The relaunch (available at your favorite podcast provider) will be a bi-monthly offering for the first five episodes."

- Long as we are on poultry, does anyone really understand a restaurant menu that serves chicken fried chicken?
- How old was Keith Richards when he taught pre-teens Willie Nelson and Betty White (RIP) to play their first notes on the lute?

Stay tuned for many more future episodes, and email us at education@aloa.org if you have any ideas for future podcast content. @



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

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