

KEYNOTES

SECURING YOUR SUCCESS



A LOOK AT THE **REAL** KEYLESS SECURITY LOCK

Exploring this three-dial
cabinet lock's operation



Veterans Vehicle Violated

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mobile unit required more security

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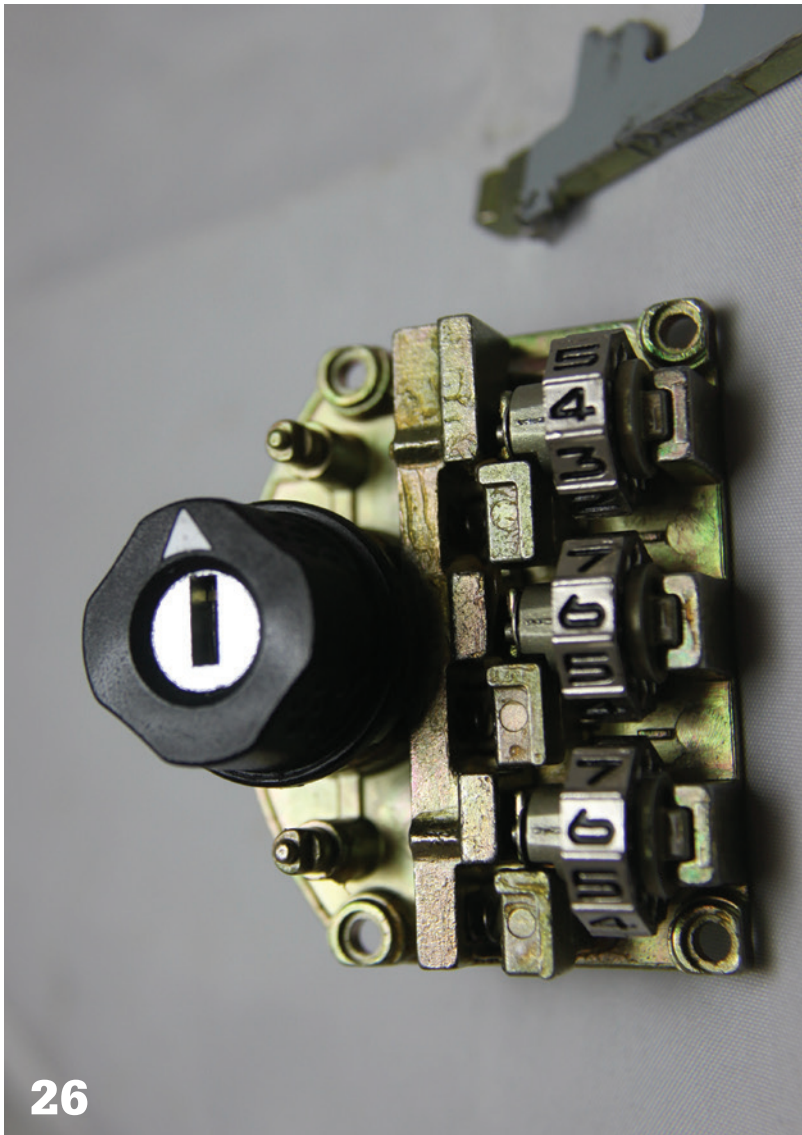
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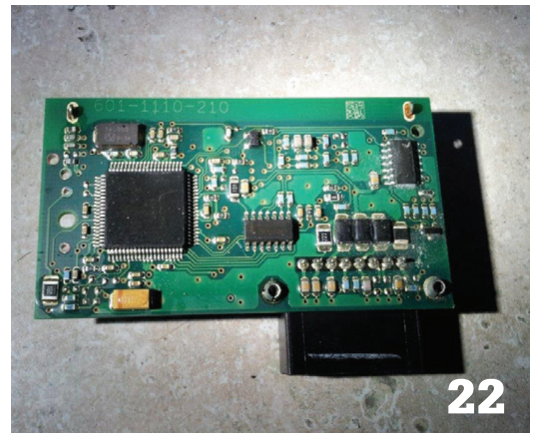
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Mission Statement: The mission of the ALOA Security Professionals Association, Inc., as dedicated members of the security industry, is to ensure professional excellence and ethics; create a public demand for professional locksmith services; represent 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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Educational Opportunities Throughout 2017

WINTER IS ALMOST OVER, AND I'm ready for spring. It's that time to clean the shop or truck so we can find the bottom or floor — that way we can start the busy time of year on a fresh note.

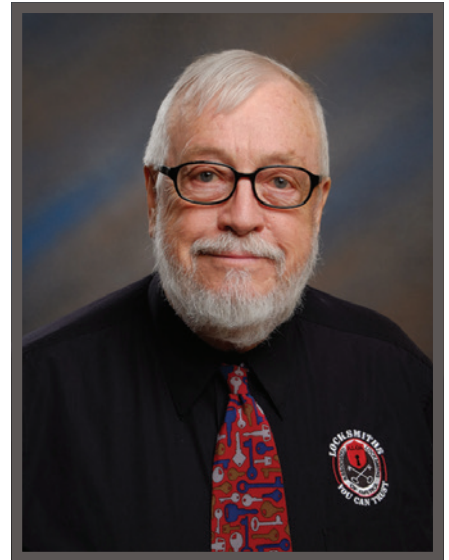
All of us on the ALOA SPAI board are excited about this year's conventions and class offerings and want to invite you to attend at least one of your favorite events. Remember, as an ALOA member, you're a part owner. It's your responsibility to support your association so it will continue to grow and remain the premier locksmith association in the world.

You have choices, starting with SAV-TA's SAFETECH Convention May 1-6 in Albuquerque, NM, where you can see so many new products and learn how to service safes. Then there's the Security Leaders Business Conference May 6-9 directly following SAFETECH at the same venue, where you can learn how to grow your business or career and take it to that next level. Last, but not least, the ALOA Convention will take place July 16-22 in

Rosemont, IL, in the Chicago area. At ALOA 2017, a new automotive track and classes will be unveiled, and a new electronics certification and classes will be offered. This is going to be a special year, and we look forward to seeing you at all of these events — or at least some of them.

We're getting more and more requests from integrators about our Certified Fire Door Inspector program. Why? Because their customers are now asking for someone to do these inspections. It has taken several years to get to this


"We're getting more requests from integrators about our Certified Fire Door Inspector program."



level of interest, so now is a great time to get trained to do those inspections. Remember, you must be certified to do them, and ALOA can certify you. This is just another way that ALOA is helping you to grow your business — take advantage of it.

Best regards,

Tom Foxwell, RL, CAI, CFDI
President
ALOA Security Professionals
Association, Inc.
president@aloea.org



HELP A VET. HELP ALOA. HELP YOURSELF.

Hire a veteran taking classes through our GI Bill-funded retraining program and get some great incentives in return. For more information, please email education@aloea.org.

ALOA Education: Change Is Gonna Come

ONE OF THE MOST IMPORTANT AREAS we are tasked with as an association is education for our members and the industry as a whole. Continued learning is so important to our growth as professionals and to move our industry forward in technology.

ALOA SPAI has made efforts recently to enhance our education and certification programs. One of the biggest changes you may have noticed is to our PRP testing. We've updated and enhanced the tests to make them more relevant, and now we also have an online practice test that you can take from the comfort of your home so you can determine your readiness for testing.

ALOA is also now offering some new credentials, including Certified Master Automotive Locksmith (CMAL) to complement our existing CAL credential, and the Certified Electronics Locksmith (CEL) and the Certified Master Electronics Locksmith (CMEL) to prepare our members for more electronic work. For our institutional locksmiths, we've created the Certified Institutional Shop Manager (CISM).

To prepare you for these new credentials and beyond, ALOA is developing new classes and tools as well, and we're also working on enhancing existing classes. For some time, we've seen a need to develop additional automotive locksmithing classes and materials for our members. We've listened, and we're adding a new line of automotive classes that will help you achieve the new CAL and CMAL

credentials. In the same vein, we're adding new electronic classes to go with the new CEL credential.

Updated Classes and Tools

To keep up with new technology and a changing industry, ALOA Education is working on expanding and amending other classes as well. One in particular we're focusing on is the The Fundamentals of Locksmith class offered in Dallas at the training center. This class is so important to those new to the industry, and we want to give our new professionals the best start we can.

Additionally, we're working on adding a new Intermediate Locksmithing class to take the concepts in the Fundamentals class one step further. This will help bridge the gap between our Fundamentals class and the more advanced classes on single subjects.

We know that not everyone is able to travel for in-depth education for budgetary or other reasons, so we're producing a set of educational videos for quick learning. These videos will instruct on topics such as adjusting your key duplicator or using new automotive tools. While the videos are aimed at the more beginner crowd, more seasoned professionals might find some useful as a refresher on rarely used methods.

Our 2017 ALOA Convention will give you a chance to experience some of these new classes and changes for yourself. Look for information on some of the new automotive and electronic lock-



smithing classes in the convention brochure that will be included with next month's *Keynotes*.

ALOA Education is working hard to implement all of these changes, and we appreciate your patience as we enact them. As I'm sure you know, change is difficult and sometimes messy — and there may be unanticipated roadblocks — but we are working diligently to make these improvements happen.

We are always open to new ideas and requests that our members have for our programs. If you have thoughts on how we can improve our better address needs, please do let us know by contacting education@aloea.org. Though we may not always be able to move forward with all ideas, we certainly appreciate your feedback and involvement. After all, we're here for *you*.

Mary A. May

Mary A. May
Executive Director
mary@aloea.org

NEW for 2017:
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or (800) 532-2562

JOIN US IN ROSEMONT!



ALOA Board Nominations Due March 31

WANT TO GET MORE INVOLVED WITH ALOA? CONSIDER RUNNING FOR one of the open board positions this year! Here's your chance to dive deeper into shaping your association's future. Nominations are due March 31, so you still have time to get your materials in.

A copy of the nomination petition was published in the December 2016 issue of *Keynotes*, and it can also be downloaded from the Members Only section on ALOA.org. Open regional director positions for this year include Southeast, North Central, Southwest and Associate. If you have any questions about running for a board position, contact membership@aloea.org.

Congratulations to Our Membership Promotion Winners

ALOA SPAI RECENTLY HELD A MEMBERSHIP recruitment contest, and a few members won some great prizes in the process. First-place winner Barry L. McMenimon, CPL, of Randolph, MA, won a flat-screen television for recruiting 12 new members. Second-place winner Robert Massard, CRL, of Novi, MI, won a registration package to the 2017 ALOA Convention & Security Expo in Rosemont, IL.

Although the contest has ended, we always look to you, our members, for help in recruiting new professionals to ALOA. Contact membership@aloea.org to see how you can help and what benefits you can get in return.

REMINDER: Update Your Email Address With ALOA!

Don't miss out on the latest news and classes! If you haven't recently updated your email address with ALOA, please contact membership@aloea.org to ensure you receive the latest association updates and keep your ability to log in to the ALOA Tech Link app.



Advanced Diagnostics Releases New Products

ADVANCED DIAGNOSTICS HAS INTRODUCED TWO NEW PRODUCTS. THE SMART Aerial is able to pre-code Fiat and VAG transponders from the electronic pre-coding stored in the vehicle and then write the pre-code data onto a blank transponder.

It automatically configures with Advanced Diagnostics Smart Dongle and programming devices, and pre-coding data is read and automatically written onto a blank transponder. The Smart Aerial can pre-code data onto ID48 and ID46 transponders found within various automotive keys. The pincode reading software (ADS185 and ADS219) must be installed on the programming device before pre-coding these transponders.

The company has also released the Force Ignition Tool (ADC222), which provides the ability to force the ignition on the Volkswagen Beetle (2006-2010) in North America via the OBD2 socket when a key is unavailable. This tool can be used in conjunction with the Smart Aerial on the Volkswagen Beetle to force the ignition on during the pre-coding process. It is also compatible with MVP Pro, T-Code Pro and Smart Dongle.



Advanced Diagnostics has released two new automotive products.

IN MEMORIAM

» **Eddie L. McMahan**, RL, of Lubbock, TX, passed away in 2016. He was employed at Deckelman's Inc. and had been a member for more than 20 years.

NEWS BRIEFS

» **PACLOCK** is looking for a select number of testers to receive a prototype rekeyable padlock designed to work with Knaack job boxes. In return, the company will require photos of it in use in addition to candid feedback on performance. If interested in being a tester, contact sales@paclock.com or call (888) 562-5565.

» **Allegion** has acquired McKenzie, TN-based Republic Doors & Frames, Inc. through one of its subsidiaries. Republic manufactures hollow metal doors and frames, complementing Allegion's Steelcraft brand in the Americas region. Republic has five regional service centers in Atlanta, Dallas, Orlando, Houston and Seattle that will assist in serving customers in these markets.

» **ASSA ABLOY** has acquired Southeastern Dock & Door, an industrial and commercial door and docking solutions distributor headquartered in Greenville, SC. Southeastern Dock & Door was established in 1996 and has 70 employees.

PRODUCT BRIEFS

» **Ilco** has released a new line of Ilco Personali-Keys: officially licensed designs from Realtree, a camouflage brand in the outdoor sporting market. The line consists of two head styles (standard and big), which are available in the following keyways: KW, SC1, WR, M1 (M1 available in Blaze Orange and Xtra Camo only). A carded key display and a shelf talker are available for retail display.

Designs include the RealTree Xtra line in Camo, Sea Glass, Paradise Pink and Blaze Orange, and the RealTree Max-5 line in Camo.



» San Diego-based **Lucky Line Products** has introduced designer lanyards in 10 custom designs. The lightweight lanyards have a satin finish and a swivel hook, measure 17¼" from top of neck to the attachment, and are ¾" inch wide. Designs are sold in packs of five, and a starter pack of five each of 10 designs is available. Designs include beach, camo, comic, dog, hibiscus, patriotic, piranhas, plaid, skulls and sugar skull designs.



» **Keyport** has launched its next generation of products. The Slide 3.0 is modular, with available add-on parts. The product is an all-metal, modular multi-tool that consolidates existing keys, tool inserts (flash drives or pen) and optional tool/smart tech modules such as knives and flashlights. It's available in four-port and six-port versions and features a removable end cap along with a minimalist lanyard attachment that locks in place when not in use.

The new Pivot model holds keys and add-ons with an operation similar to a Swiss Army-style knife. It features a locking mechanism that provides tension for smooth operation without loosening. Both models come with a free two-year subscription to KeyportID, an online lost and found service that uses the unique serial number engraved on each Keyport to connect owners and finders directly and anonymously with a click.

The company is also introducing three modules that are compatible with both devices: a Bluetooth locator and LED module, a pocketknife module and a 12-lumen mini flashlight module. For more information, visit www.mykeyport.com.



» **Westinghouse Security** has integrated its Z-Wave-enabled RTS electronic lock with the Alarm.com platform for home and business. The RTS-PZA lock works with an Alarm.com-connected security panel and can be included and operated in any Z-Wave network with other Z-Wave and Alarm.com certified devices. The RTS-PZA has a satin chrome finish that includes a Zamak 5 cast enclosure. In addition, the lock is IP56 tested and is resistant to humidity, dust and rain.

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Sponsor: Joe Moyer, CRL

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

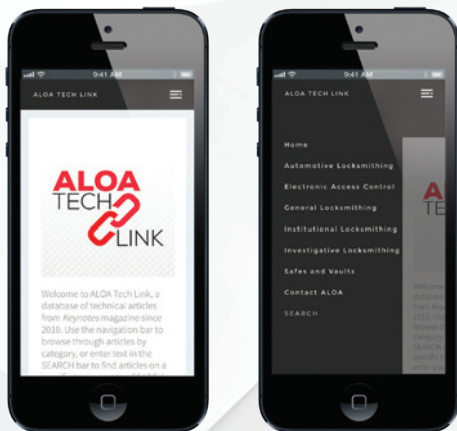
We Need Your Help

Attention, ALOA members: Help us eliminate the ongoing industry problem of scammers by screening the new applicants listed on these pages. If you have questions or concerns about any of the applicants, please contact Kevin Wesley, membership coordinator, at (214) 819-9733, ext. 219, or email kevin@aloa.org.

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

CALENDAR

GET YOUR INFO TO GO



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Download the free apps from your smartphone at:
www.aloatechlink.com | www.savtatechlink.com

MARCH

March 9-11
2017 Midwest Education Seminar & Product Showcase
Hilton Northbrook
2855 Milwaukee Ave,
Northbrook, IL 60062
Contact Michelle Lee at michelle.lee@clarksecurity.com or (858) 974-5210

March 15-18
IDN-Hardware Sales 2017 Trade Show and Security Conference
Sheraton Detroit Novi Hotel
21111 Haggerty Road, Novi, MI 48375
Contact Ronald Weston, marketing manager at (734) 293-0082 or Bonnie Weston at (734) 293-0061

March 23-25
H.L. Flake 2017 Trade Show
Houston, TX
travis.howell@hlflake.com;
(800) 231-4105, www.hlflake.com

MAY

May 1-6
SAFETECH
Crowne Plaza Albuquerque
Albuquerque, NM
www.savta.org or
(800) 532-2562, ext. 218

May 6-9
Security Leaders Business Conference
Crowne Plaza Albuquerque
Albuquerque, NM
ALOA.org or (800) 532-2562, ext. 218

May 15-20
Six-Day Basic Locksmithing
ALOA Training Center
Dallas, TX
education@aloa.org or
(800) 532-2562, ext. 101

JULY

July 16-22
ALOA Convention & Security Expo
Donald E. Stephens Convention Center
Rosemont, IL (Chicago area)
ALOA.org or (800) 532-2562, ext. 218

The Next Generation of Locksmiths

Aubree Momsen discusses what you can do to mentor Millennial locksmiths.

KIDS THESE DAYS...
...want everything for nothing.
...don't know how to work hard.
...aren't interested in locksmithing.

Do any of these above statements sound familiar? Last summer, I attended the 2016 ALOA Convention & Security Expo, where these were frequently mentioned subjects. Though, it may have been my own youth that brought out those words. I got started in this industry doing the most basic of locksmithing tasks and tracking inventory. It's been difficult to learn with so many different avenues in this field: access control, alarms, interchangeable core, safes, etc. — it's a lot to take in. While it's challenging, I decided this profession was interesting enough to make it a life goal to learn all I could.

Locksmith magazines are full of great tips for understanding products, problem solving and helping your business succeed. Being so new to this industry, I don't feel experienced enough to comment on locks, but I can give my humble opinion on helping a business succeed by offering insight into the younger generation.

"The children now love luxury; they have bad manners, contempt for authority; they show disrespect for elders. They no longer rise when elders enter the room. They contradict their parents, and tyrannize their teachers." This paraphrased quote is taken from William L. Patty and Louise S. Johnson's "Personality and Adjustment," published in 1953. They attributed it to the words of Socrates. As you can see, the problems found in the youngest generation aren't new. Every new generation is thought to be the worst that's ever been. This means that the same things used to be said about your generation.

Be a Mentor

"Any monkey can pin a lock or cut a key" — Harry Sher

Consider your own experience. How did you start in this industry? Were you someone's "monkey" just pinning locks and cutting keys in the back of a shop? What got you on to the next step? Who got you started down this path? How many mistakes did you make? Or were you special and born knowing all there is to know about everything? Not likely.

A good start is realizing whoever that mentor was to you is the type of mentor the newer generations need. We're not going to get it right the first time; maybe not even the second. We need patience, understanding and leadership. Show us what we're doing wrong, but teach us how to do it right. We need to understand the important things: customer service and assessing cost versus value in addition to lock manipulation. Show us how challenging and rewarding it can be and teach us how to stick with it, even though things look tough right now.

Setting reasonable goals can help us to see the progress we've made. Putting it in writing helps you see, objectively, how far and how fast we've advanced. We don't want to just be a "monkey in a shop," but without a guide we may never follow this path.

Since starting down my path, I've taken every opportunity to teach my own kids all the fun things I have learned. My kids are not yet into their teens, so



The author believes in the value of mentoring. She taught her niece, Lilly, about locks and locksmithing during a visit. After picking a Kwikset, Lilly tried her hand at a Schlage ND lever with all five pins.

they're not too interested in the products or industry, but they *love* bypassing locks. My youngest plays with every safe dial and keypad she can get her hands on when she comes into the shop; she is convinced she is going to be a safe tech. My eldest borrows my picks every time she can and heads for the nearest locked door. That interest now, at a young age, leads to a drive to explore more as they get older; that experience shows their capability to a future employer.

You may think a "basic" training is enough and that you don't have time to hold someone's hand, but there was someone who once showed you how, inspired you and lead you through the beginning stages of your career. Almost everyone in this industry has served in an apprenticeship of some kind. Everyone started by walking their own path, getting their

feet wet, learning their job and about the products and the industry — and even more as the industry continues to grow and change. No one is born knowing it all.

Every tech I've talked to loves to tell stories. The techs in my shop share their experiences and use their misfortunes as fables of how others can do better in the future. Not sharing your knowledge could be costing you more than you think. Tell your own stories so we can relate. Those new to the industry need leadership; it's important. But, lead by example. More effective than telling us what to do is *showing* us, guiding us and watching as we learn from you. You may find we're not entirely different from your generation.

Kids these days...we understand needing to earn our way in the world. It's true that some Millennials have a want for instant gratification, but we don't

like "participation" awards. We look for ways to impress and show off our skills. We have a strong sense of community and fairness — which may be why we don't care for politics. We're optimists with pragmatic ideals. We're confident — even if sometimes narcissistic — but that's what makes us awesome. That's what makes us a great investment for the future of this industry. ☺



Aubree Momsen is a locksmith with Accurate Security Pros in San Diego. She first learned how to pin locks and cut keys when she was the maintenance manager of an apartment complex. She has two brilliant and beautiful daughters. She was recently elected vice president of her local ALOA chapter.

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Get In On the Action

Plan your travel now for the upcoming **ALOA** and **SAVTA** events!



SAFETECH

SAVTA's convention, SAFETECH, will be here before you know it. Don't wait to register! Some classes are starting to sell out, so don't miss out on your favorites or new picks.

Join us in Albuquerque, NM, for endless possibilities for training, product education and networking with your fellow professionals in one convenient location. We've boosted SAFETECH's educational offerings this year with some new classes. Come learn the exciting field of forensics with the new two-day Forensics for the Safe Technician class. This class, which will help you achieve your certified forensic locksmith credential, will cover policies and procedures needed on forensics jobs. This class has a la carte pricing.

If you want to stay up to date on electronic safe lock technology, Basic Mechanical Safe Service 101 is for you. This class for beginners will instruct stu-

dents on installing and servicing commonly used mechanical combination safe locks. For more advanced students, try new classes such as Boltwork & Hinge Servicing.

From your home base at the host hotel, the Crowne Plaza Albuquerque, explore all that Albuquerque has to offer. Albuquerque is, of course, known for its hot air balloons, but you can also enjoy des-

ert activities such as hiking, and there are so many museums and casinos for indoor fun as well. For "Breaking Bad" fans, there are several tour options to take a look at some of the show's filming locations.

Secure your room now! The cut-off date for reservations at the Crowne Plaza Albuquerque is April 3.



SAFETECH

May 1-6, 2017
Trade Show: May 6
Albuquerque, NM

Hotel Information

Crowne Plaza Albuquerque
1901 University Boulevard
Albuquerque, NM 87102
(505) 884-2500

Rate: \$114/night with free parking and WiFi for hotel guests

Hotel Reservation Deadline: April 3
Group Code: SAVTA17

Registration

Go to SAVTA.org to register.

To register, email conventions@aloea.org or call (800) 532-2562 x240

THE 2017 SECURITY LEADERS BUSINESS CONFERENCE

Security Leaders Business Conference

After SAFETECH, stay in Albuquerque for the Security Leaders Business Conference May 6-9, taking place at the same venue. Double your travel dollars by attending two conferences in one place! This conference gives attendees an opportunity to learn about growing their businesses as well as advancing in their careers — it's not just for business owners. In the mornings each day, attend seminars designed to reinvigorate your

business operations and give you practical advice for improvement. Kicking off the seminars is Marshall Merrifield, who returns to this year's conference to talk about the economy and the state of the industry. He serves on the Board of Port Commissioners to represent the City of San Diego and is also president/CEO and majority shareholder for Bluewave Security, which manufactures high-tech equipment for video and door-access surveillance.

Speaker Joey Dalessio, general manager of Codelocks, Inc. of Irvine, CA, will be on site to discuss the changing world of competition in the industry. Who's encroaching on your business space in 2017? Your local rivals are no longer your only competition in this global economy. Learn how to survive and thrive in this new competitive environment.

There will also be several Q&A and roundtable discussions, starting with one on business exit and succession planning. Travis Scribner, who manages the Las Vegas office of WestPac Wealth Partners, and Vincent M. D'Addona, CLU, ChFC, AEP, MSFS, CExP, RICP, senior associate at Strategies for Wealth, will talk about planning for your exit from your business. Topics will include tax issues, owner transferring, business valuation and life insurance.

Additional speakers include Rick Roland, who will discuss building up your business and managing business growth, and Aaron Schuh of RECRUIT4BUSINESS, a human resources expert who will instruct on recruiting and retaining employees. Learn the science behind successful hires and legal compliance with compensation and interviewing processes.

Rounding it out is past ALOA President Tom Demont, who will teach attendees how to set up successful in-house training programs for new and current

SECURITY LEADERS BUSINESS CONFERENCE

May 6-9, 2017
Albuquerque, NM

Hotel Information

Crowne Plaza Albuquerque
1901 University Boulevard
Albuquerque, NM 87102
(505) 884-2500

To register, email conventions@aloea.org
or call (800) 532-2562 x240

employees. Topics include how to find qualified instructors, motivating employees to learn and using training to grow your company.

In the afternoons, you will have the chance to participate in one-on-one meetings with manufacturers and distributors to forge stronger relationships that will benefit your business operations. The evenings will provide you with ample opportunity for additional networking while you socialize.

For additional details or to register, visit ALOA.org.

MASTER YOUR SKILLS.



ALOA Convention & Security Expo

If you haven't yet marked your calendars for the industry's best learning opportunity, now is the time to do so. Join us in Rosemont, IL (in the Chicago area) for the 2017 ALOA Convention & Security Expo. Travel to the conference is easy, with great airline ticket prices and a location within driving distance of several

major metropolitan areas. For further travel convenience, ALOA has contracted with four local hotels for reduced pricing, giving you options to meet your budget and convenience needs.

Enjoy one great location — the Donald E. Stephens Convention Center — for both classes and the Security Expo. This year, ALOA has planned several new classes, including new choices for both automotive and electronic locksmithing. You asked — we listened!

Don't miss the two full days of the Security Expo, where you can browse new products from both first-time and favorite exhibitors.

In addition to coming for unparalleled networking and mastering your skills through world-class industry education, the convention's family-friendly Chicago area has so many opportunities for some fun too.

Look for full class and registration information soon at ALOA.org and in the April issue of *Keynotes*. ☺

CONVENTION & SECURITY EXPO

July 16-22, 2017
Trade Show: July 21-22
Rosemont, IL

Venue Information

Donald E. Stephens Convention Center
5555 N River Rd
Rosemont, IL 60018
(847) 692-2220

Hotel Information

Visit ALOA.org for hotel choices (four to choose from!)
For more information, email conventions@aloea.org or call (800) 532-2562 x240.

Registration coming soon!



Become a CFL and an Expert Witness

IAIL President Tom Demont talks about turning your years of experience into a part-time second career.

MARCH OFFICIALLY KICKS OFF TRAINING THROUGHOUT THE UNITED States, so if you haven't signed up for continuous education yet, start looking for the closest educational event near you. There's no such thing as too much education in this new technology-driven world we live in. I'm always amazed at how much I don't know about something that I thought I knew everything about! So start looking now; there's a class not far from your area waiting for you.

As you Baby Boomers start to think about retiring to the good life, think about turning your years of locksmithing into a part-time second career as an expert witness. That's right, just like "Law and Order." You could be the expert called in to solve the situational issue around a locking system.

Forensic I, II and III will be taught at SAFETECH this May in Albuquerque, NM. This is a mandatory class to test for your Certified Forensic Locksmith (CFL) license,

and it's a two-day class. The next class will be held in Rosemont, IL, at the annual ALOA Convention & Security Expo in July. Sign up early; these classes fill up quickly because of their size.

IAIL members who have become CFLs are in demand by insurance companies to evaluate locking systems — from padlocks to safes — to determine methods of compromise or not. CFL rates range from \$100 to \$500 per hour, and the average minimum return per case is around \$5,000. If you'd like more information on becoming a Certified Forensic Locksmith, e-mail me at iailpresident@aloea.org and I'll send the requirements to test for your new career.

We're always looking for articles for this page in *Keynotes* so our forensic locksmiths can share with our members some of the exciting items we work on in our careers. If you'd like to submit an article and aren't sure how to do it, contact me, and I — along with our expert staff at madison/miles media — will help you formulate your article. ☺



Tom Resciniti Demont,
AHC, CAI, CFDI, CFL, CMIL,
CML, CMST, ICML, IFDI,
LSFDI, ARL, President, In-
ternational Association of
Investigative Locksmiths.

IAILPresident@aloea.org

Get Published!

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12 Holes and Two Days

A Tann safe with tricky boltwork becomes a time-demanding head-scratcher. By Jason Jones

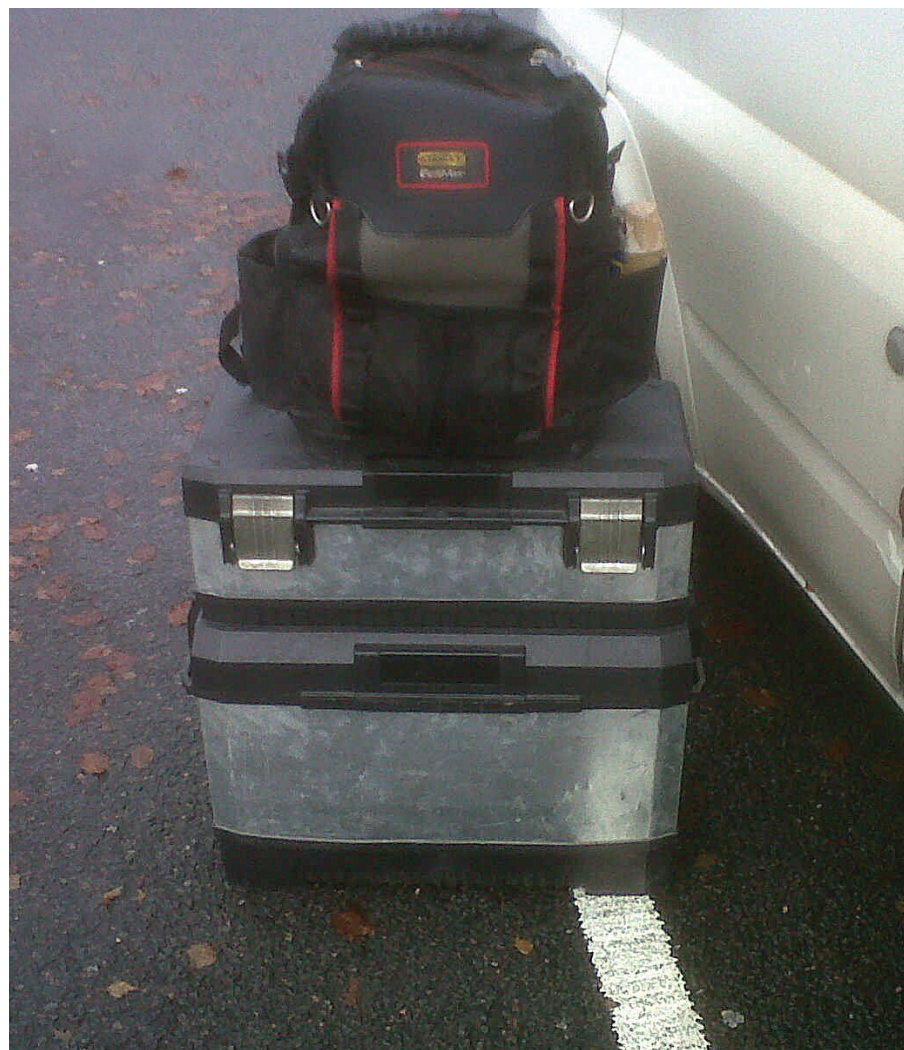


Figure 1. The handy toolbox on wheels contained what was needed to get the job done.

WAS IN THE WORKSHOP WHEN MY boss told me about a customer's Tann safe that wouldn't open. One of our other engineers had been to the site to see if he could get the safe open and diagnose the problem so we could quote for the job. He said it was a Tann safe — possibly a banker-quality — and it had two locks on it: a key and a combination. Both locks opened and the handle turned, but the safe wouldn't pull open.

I was thinking the problem was most likely a lazy bolt or broken scroll inside the safe. The scroll that operates the boltwork on this safe is made out of a hard plastic that breaks and leaves the boltwork behind. I told my boss it was most likely going to be a one- or two-day opening, depending on what the fault was and how quickly I could find it.

A couple of days went by, and I was told the job was going ahead. It was three hours from my house, and there was no parking onsite as it's a pedestrian high street with no access for vehicles; I had a look on the internet to see if I could locate a car park that I could fit my van in, as most of them had height restrictions.

Day 1 – Seven Holes

I was up early and set off to the site. At this time of the day, the drive went quite smoothly to the site with no holdups on the road. I parked and made the walk to the site with my toolbox on wheels (see *Figure 1*).

On arrival, they had to check my ID and took me to the safe. It was a Tann, but the model was unknown (*Figure 2*). The hinges were bigger, giving an indication of possibility a banker-quality safe.

OK, so now it was my turn. When the



Figure 2. The safe was a Tann, but the model was unknown. The hinges were bigger, giving an indication it was possibly a banker-quality safe.



Figure 3. A scope was put down the keyhole, out the back of the lock case and inside the void of the door, showing that the scroll was in one piece. This image shows the location of each hole, marked with letters.

locks were locked, the handle was solid. There was no movement in and out on the door. When both locks were open, the handle turned 90 degrees (this is the right distance to fully retract the boltwork). I pulled on the door and it had about 4 mm in and out movement but wouldn't pull open. Both locks wouldn't lock when it was in this position. In my mind, if a screw had come out of the strap connected to the lock bolt, it could be stopping the boltwork from coming back all the way — but it had full movement back.

I was thinking the two most likely

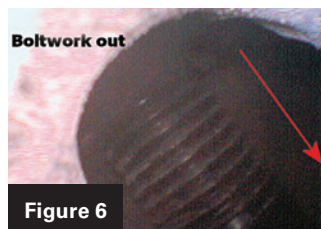
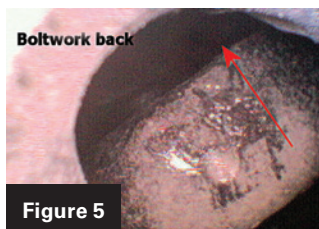
causes would be a broken scroll or a lazy bolt, most likely at the bottom of the door. I have invested heavily in scopes and other safe-opening gear over the years, so I had a scope I could put down the keyhole, out the back of the lock case and inside the void of the door to look around (*Figure 3*). I could see the scroll, and I could see it was in one piece. *Figure 3* shows the location of each hole, marked with letters.

I checked my own information for a measurement for a drill hole in the bottom bolt area (B) — holes can take a while to drill with these (*Figure 4*). Through

this hole, I could see the boltwork traveling back (*Figures 5 and 6*). I used a bent wire to see if there was play in the boltwork, and it looked like it had some play of about 4 mm. So I prised it up while turning the handle and trying to bounce the boltwork, but it didn't make any difference. I tried this for a while, looking around with the scopes and eventually decided that maybe the T part was loose, still leaving a bolt in one of the sockets. So, I put in another hole (C); again, I could see it traveling back straight, but the safe still wouldn't open.



Figure 4. A hole was drilled in the bottom bolt area; drilling can be time-consuming in this area.



Figures 5 and 6. Through this hole, the boltwork could be seen traveling back.

Scratching my head, I decided to check all sides of the boltwork to see if they were all traveling back. The next hole (A) was at the top. Gravity should have let the boltwork fall in, but I drilled in the same place as the bottom to see if there was difference in the distance the boltwork was traveling back (*Figure 7*). But, no, it was traveling back the same.

OK, I thought, I'll look at the opening edge boltwork next. The next hole (D) also showed it was traveling back all the way. I looked around with my scope and could see a time lock. Although the snub-

ber bar was traveling back, I was thinking maybe it was fouling up on the last bit. It was hard to hear, but there was a definite clunk when opening the safe, so it sounded like it was a possibility.

First, I spoke to the staff to find out if they used the time lock, and they told me they hadn't. I also asked if they had played about with the safe or time lock and they said no (but I was taught to be cautious, so I didn't really believe them).

I didn't have a measurement for the time lock snubber bar, so I guessed and put in another hole (E). This was well out,



Figure 7. A hole was drilled in the same place as the bottom to see if there was difference in the distance the boltwork was traveling back, but there wasn't.

but I decided to continue the hole out of the back of the safe door and look around at the front of the time lock to see if it released, or if there was anything pushing on it. It was hard to see, but it looked like it wasn't locked. I was still thinking it could be fouling up on the snubber bar, so from this scope hole I took another guess for the snubber bar (F). As the drill went through, I heard a pop. The glass had broken, but I'd had the handle and locks in the open position; the AEDs/relocker would be held open with the boltwork as long as the handle wasn't turned to throw

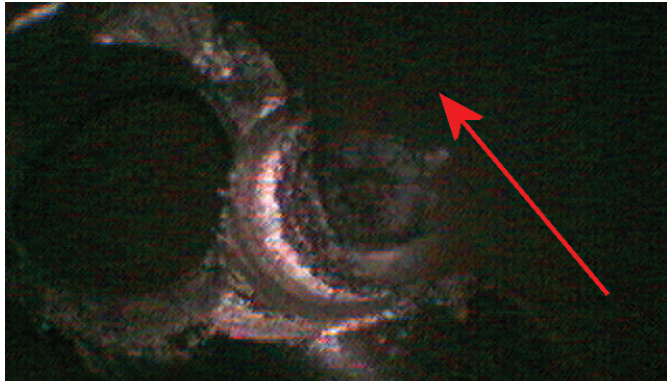


Figure 8. Hole (L) was drilled and a hole was drilled through the boltwork rail, angled to finish the job. At this point, the rail jolted up and the safe was open.

“Both locks would not lock when it was in this position. In my mind, if a screw had come out of the strap connected to the lock bolt, it could be stopping the boltwork from coming back all the way — but it had full movement back.”

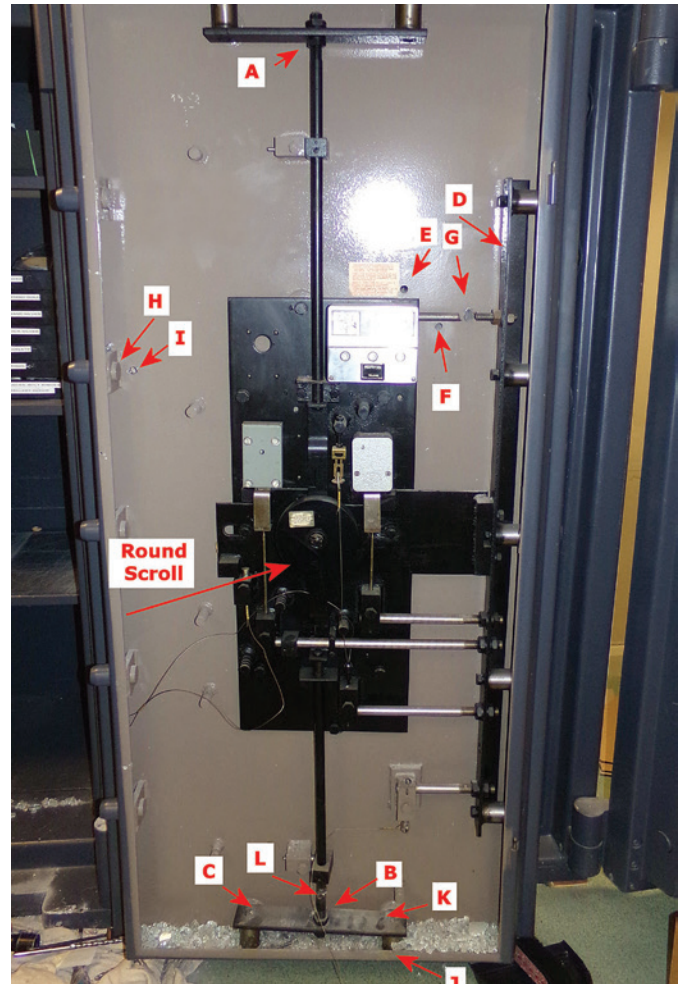


Figure 9. This image shows the safe boltwork and locations of the holes.

the boltwork to the locked position.

Well, this hole was just under the snubbed bar — I mean really — so I put in another hole, and this time it was spot on target. I drilled off the snubber bar (G) and, you guessed it, the safe handle didn't turn anymore, and the safe wouldn't open. Well, it was locking up time, so I tapped a box over the handle so no one on site would turn it and set off the AEDs/relockers.

Day 2 – Five More Holes

I got there first thing on Friday so I would be first on site and nobody would have a chance to turn the safe's handle, thereby wrecking my day and most

likely the weekend.

Having slept on it, I thought this safe would have three-way boltwork and dog bolts on the hinge side. I decided to put a hole in (H) to see if I could see a bolt left behind; from this hole I could pry it back if it had been left behind. It was solid, but then again it could simply be a dog bolt. I couldn't tell from this hole, so I put another hole in the safe (I). Through this hole I could see there were dog bolts. At this point, I was thinking it was going to be much of the same as yesterday, and found myself wondering why I ever chose to become a safe technician.

Well, now I'm thinking of all possible causes of what could be going on with

this safe. It could have been that all the locking bolts weren't coming back all the way, and this was day two. I was thinking of drilling the rods off in the boltwork that pulls the bolts back and prying the bolts back. I now had my doubts about the bottom bolt again.

This job was either open only and price to repair later on site, or take it away and repair at the warehouse. There was a second safe on site that could hold the contents, so they would be secure if I decided to kill the safe. First, I decided to look at this bottom bolt again. I drilled a hole (J) to try to get this hole in the cup of the door's body to see if the bolt had travelled back far enough. What looked like the

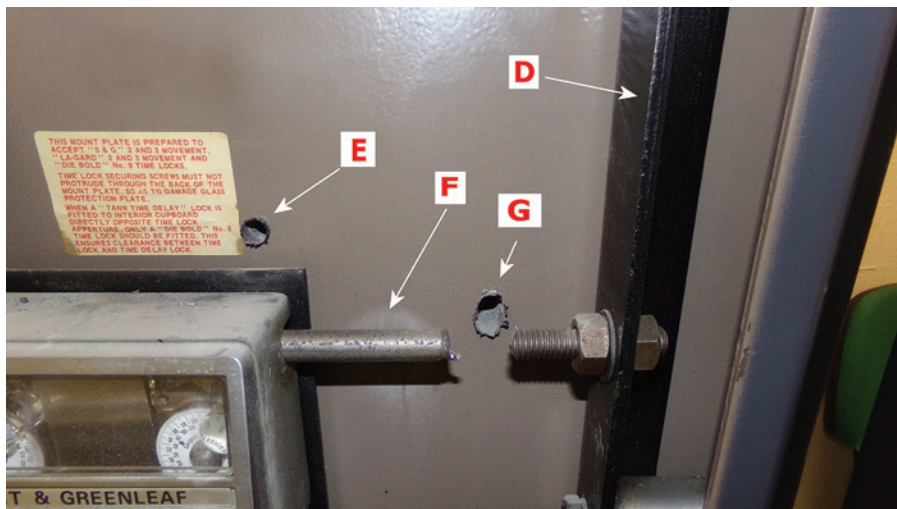


Figure 10. This image shows the time lock snubber bar.

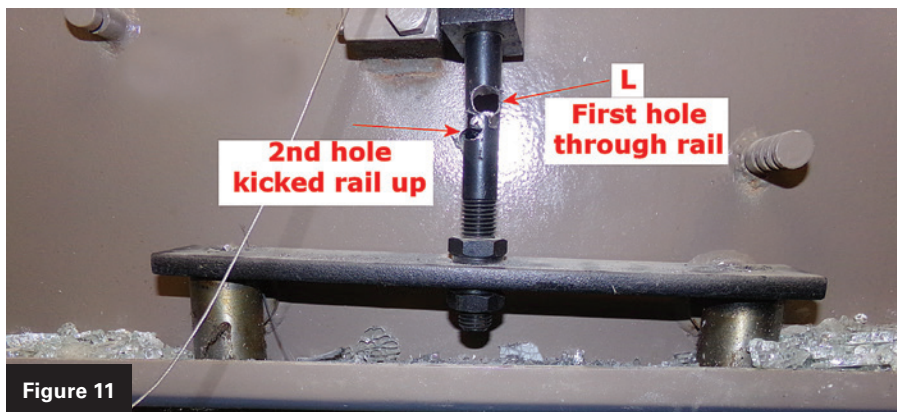


Figure 11

Figures 11 and 12. These images show the bottom boltwork and rail. The first hole was drilled through the center; the second hole forced the boltwork up.



Figure 12

“I was thinking the two most likely causes would be a broken scroll or a lazy bolt, most likely at the bottom of the door.”

locking bolt could have been the socket, and I couldn't turn the handle to see if it would move as the relockers would fire. As it turned out later, it was not the bolt but the underside of the socket that looked just like the locking bolt.

Next, I decided to put a hole in (K); I would have three holes all in a line and could see if the bolts were traveling back far enough. Through these three holes, I could see they were all traveling back the same way. I decided I'd had enough of this and was going to go for drilling out the boltwork to disconnect the bolts from the scroll. Then I could simply push the bolts back, as I was at the bottom and it was still where I expected the problem could be.

I drilled hole (L) and drilled a hole through the boltwork rail, but it hadn't disconnected or broken it, so I angled the hole to finish the job. At this point, the rail jolted up (*Figure 8*). Earlier, it had travelled as far as it could and I had tried to pry it up via the three bottom holes (B, C and K). It was open!

Yes, what a fight it was. I checked the model, and it was a TBT. Then it was time for a cuppa before I made the door safe and cleaned up the glass.

I made it safe so it couldn't be relocked by the customer and tidied up. We've given the customer a price to bring the door back to the workshop to carry out repairs and, if they give the go-ahead, I can ful-

ly strip the safe down to discover what caused the lockout, as I wasn't able to find a cause without stripping it down further.

Well, it took 12 holes and the best part of two days to open. It had me scratching my head, and it was a challenging opening — which is good to look back on when it's over. ☺



Based in Hoddesdon, Hertfordshire, England, UK, **Jason Jones** has been in the industry since leaving school in 1994. He runs Key Elements Locksmiths, which was formed in 2006. He is a locksmith and safe engineer.

Replacing a SKIM Crystal Gone Bad

Stacy Hetchler, CAL, walks you through this quick process that can help keep more money in your pocket.

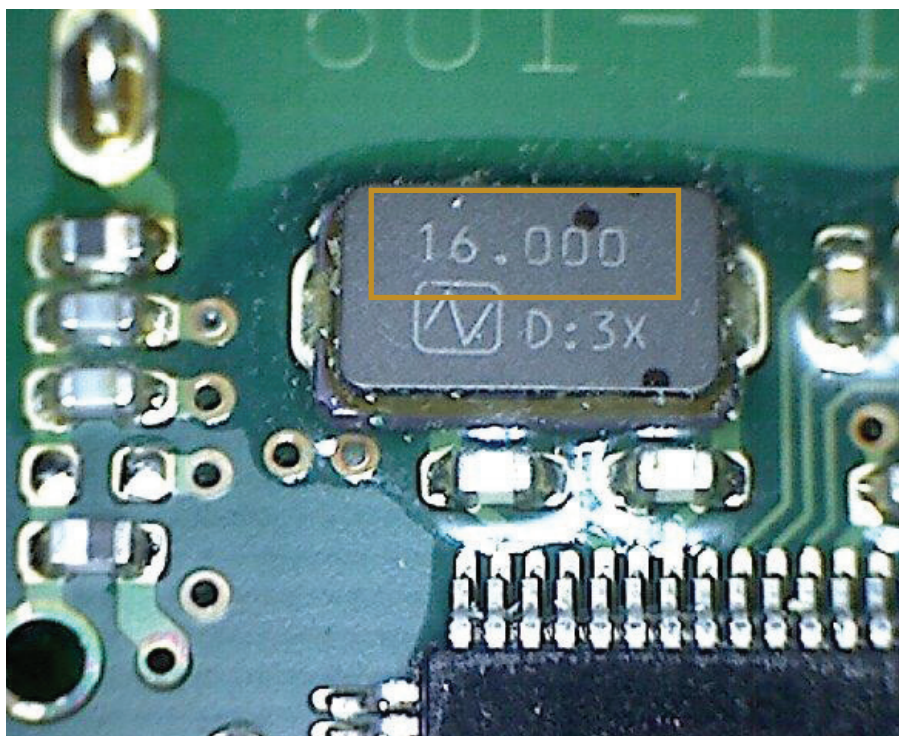


Figure 1. Here is the crystal that quit working and sending a signal. You can replace the whole SKIM, sync the PCM and the SKIM, get the PIN and program the keys back in. That will take a lot of time and money. Or, just replace this crystal — five minutes and no money. We're finding more and more often that when the transducer coil isn't sending a signal, it's just a matter of replacing the crystal. This is an easy and quiet job with almost no out-of-pocket expense. You just need another crystal so long as it's the same frequency.

"We're finding more and more often that when the transducer coil isn't sending a signal, it's just a matter of replacing the crystal."



Figure 2. You must buy a transducer coil detector to test for a signal being sent by the coil. It should be the first thing you test once you have the key made — because if it isn't sending, you'll waste a whole lot of time trying to program it.

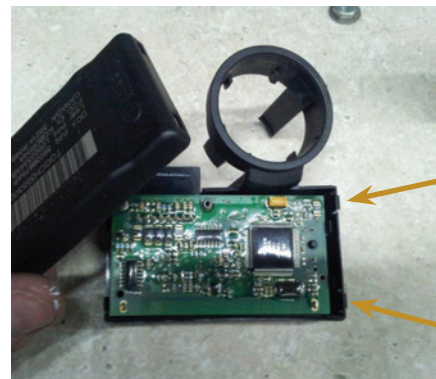


Figure 3. Carefully remove the back cover by prying open the two small tabs you see here.



Figure 4. Carefully pry these two tabs to also release the board from the box. You haven't had to use anything but a screwdriver so far.

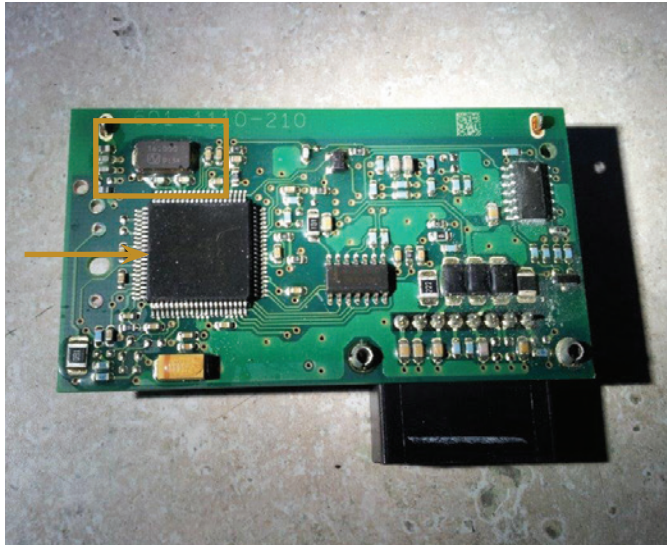


Figure 5. Here's where the crystal sits. It's always near the large MCU chip you see here. This crystal is quite a bit larger than the one we're going to put back on. But, we'll show you how. Remember, it doesn't matter what you use as long as the frequency is the same. This one is 16.000 MHz.



Figure 6. On the left is an old board from a 1999 Dodge we salvaged (we never throw anything away). Can you spot the crystal we're going to salvage? I'll show you because it's pretty small in this picture — much smaller than the one we're taking off.



Figure 7. The crystal is always near the larger MCU chip. Here, it's as seen on the previous photo.

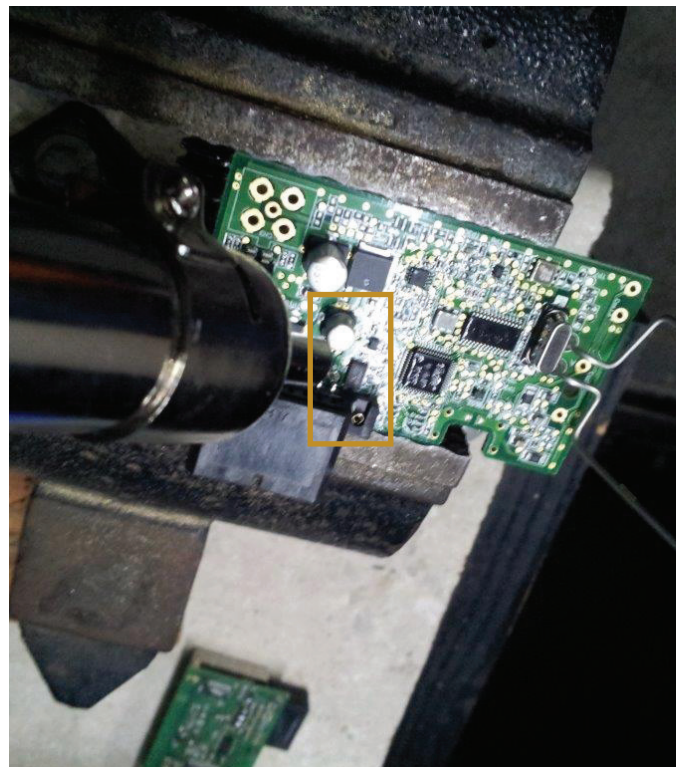


Figure 8. We apply heat with a hot air gun as we apply pressure under the crystal. When it's hot enough, the crystal pops off.

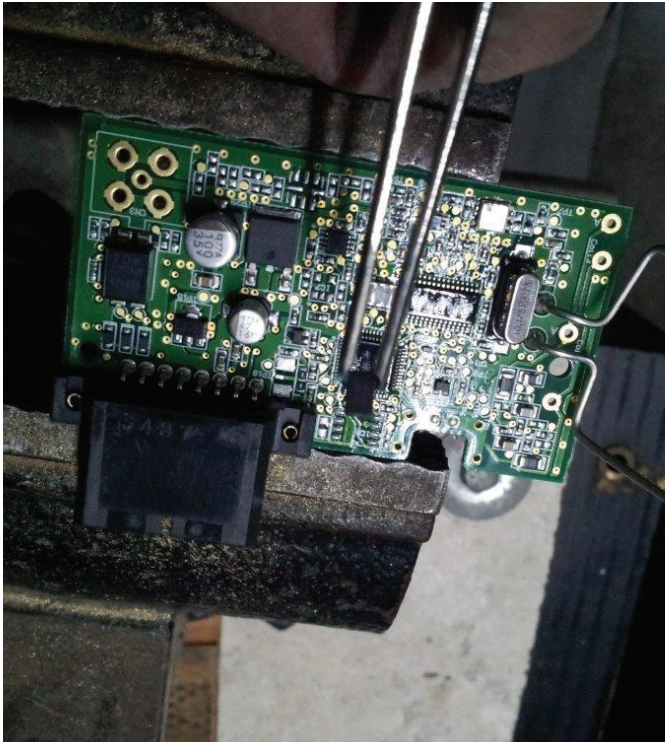


Figure 9. Once it's loose, pick the crystal off and set it aside so you don't lose it. Then we'll throw the board in the back in case we need any more parts from it.

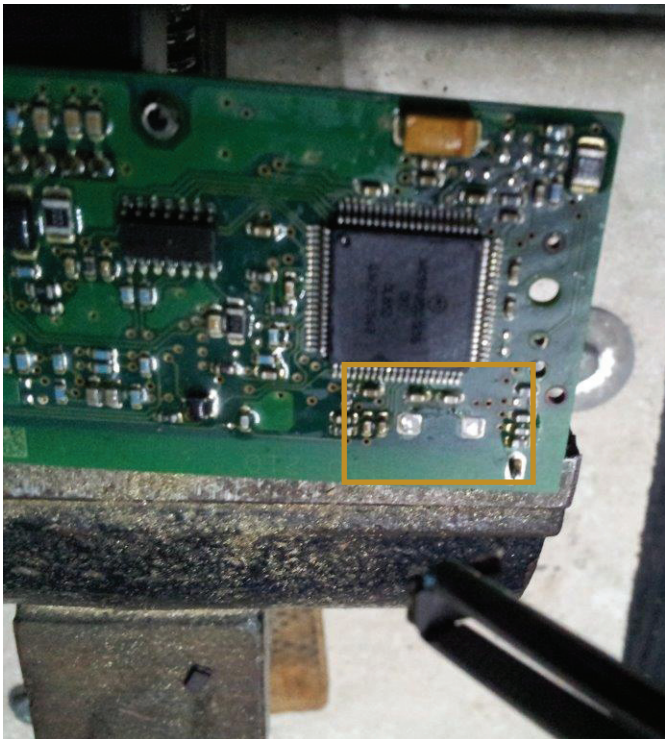


Figure 10. This is the good board we're going to put the used crystal on. As you can see, we've used copper braid to clean the board off so it's ready to take the new chip.

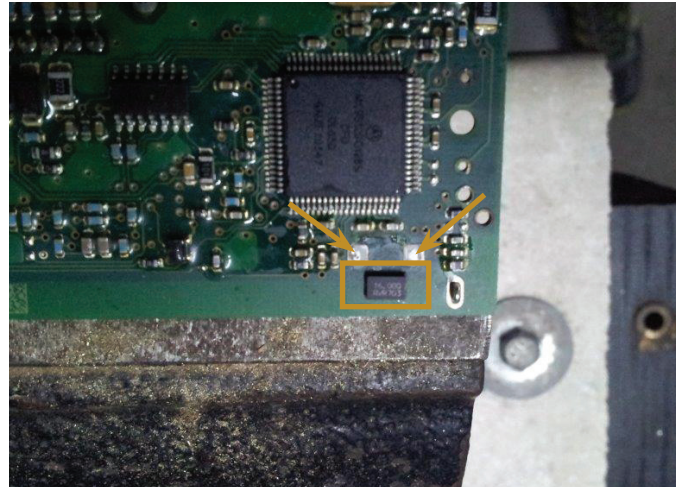


Figure 11. Here, we set the used crystal next to the board. You can see it's a smaller chip than the old one. We'll show you how to fix that.

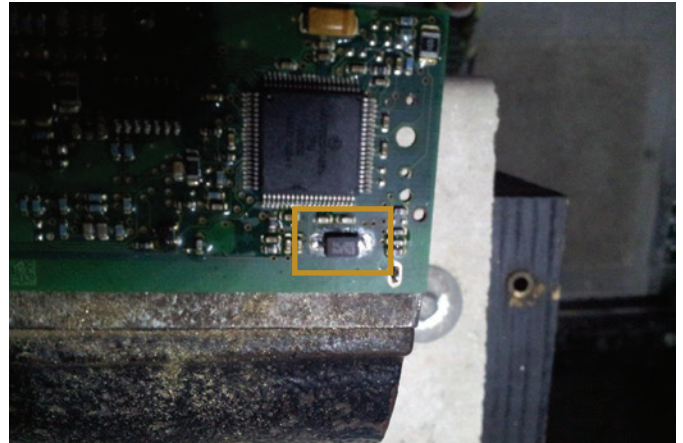


Figure 12. We've soldered the used crystal in place. In the following photo, we'll show you what we did.

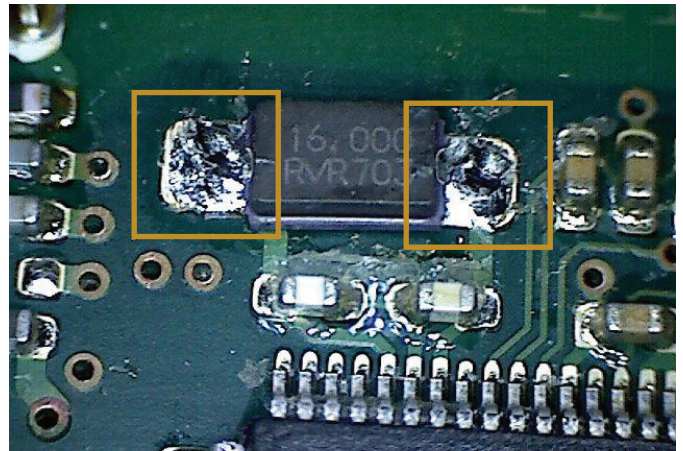


Figure 13. We had to extend the solder out on each side to the contacts because this crystal was a lot smaller than the one we took off.

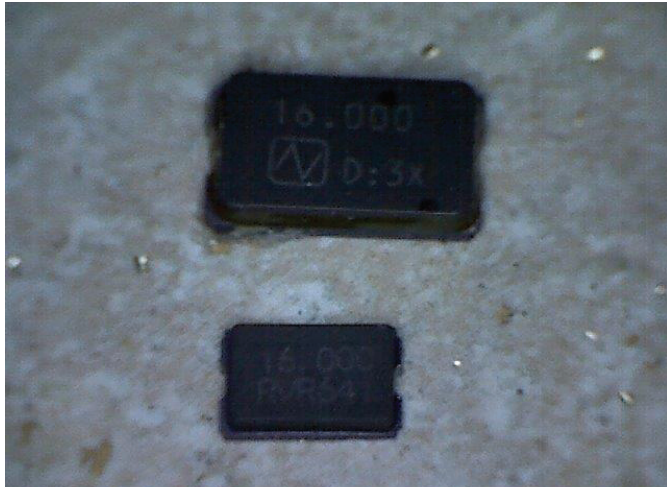


Figure 14. This photo shows the two crystals. The bottom one is the one we put on the board to replace the bigger one. Both are 16.000 MHz.

So you've taken a used board, removed the 16 MHz crystal and used it to replace the one that quit transmitting a signal. This process takes about five minutes, cost nothing for parts and should be about a \$150 to \$200 job. Go to the

"This process takes about five minutes, cost nothing for parts and should be about a \$150 to \$200 job."



Stacy Hetchler, CAL, has been a locksmith since 1995 in South Central Texas, focusing primarily on the automotive segment. In his limited personal time, he plays soccer and paintball, and flies helicopters while he listens to music. He teaches locksmithing for various associations, including ALOA. He adds, "All proceeds from my work go to my sweet daughter, Khoal, and my little man, Greisun — and of course my great and supporting wife, Candee."



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A LOOK AT THE



KEYLESS SECURITY LOCK

Greg Perry, CML, CPS, explores
a three-dial cabinet lock's operation.



Figure 1. The lock is unlocked here.



Figure 2. In this photo, the lock is turned to the locked position.

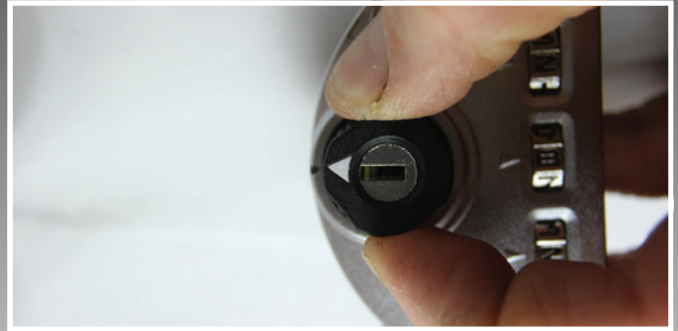


Figure 3. This photo provides a close-up of the turn knob with the wrong combination.



Figure 4. The first number is at the correct location.

TECHNOLOGY IS RAPIDLY CHANGING, AND IT'S SOMETIMES CHANGING SECURITY in ways we might not think about. One of the bigger issues for businesses is technology theft. It may be blatant or inadvertent, but it's quickly becoming a major concern. One of the ways to access data is via a cell phone, perhaps recording audio or taking photos or video with the camera. Businesses still need to allow vendors, customers and perhaps even students learning about their product to access their facilities. Most often, the biggest concern companies have for technology theft is employees. To combat at least one method of theft, they no longer allow cell phones in their facilities. I have an acquaintance who lost his job for simply forgetting that his phone was in his pocket, and it started ringing while he was in the warehouse.

Even businesses that don't have technology concerns are finding that employees are wasting time on their cell phones instead of working. But not allowing cell phones has created a new problem: cell phone theft. Leaving them at the front entry leaves them susceptible to theft or even to others inadvertently grabbing the wrong phone. Leaving phones in someone's car is not always practical, as cars can become hot boxes that can cook phones in the summer. To solve these issues, some companies are installing lockers. Many of these cabinets have key locks, but a common upgrade is a resettable combination lock.

I received a call from a panicked customer whose visitor to the facility couldn't remember his locker combination. The visitor was flying out that night and needed the cell phone back ASAP. Not a problem; I knew the facility manager had the override key. Well, it was a problem after all: The facility manager was out of town, and no

one knew the location of the override key. After a quick pick of the lock, the visitor was on his way. But that part of the story doesn't make an article. Because this was the first time I worked on one, I removed the lock to explore it a little more.

Exploring the Lock

Looking at the lock, we can see it is a three-dial cabinet lock. These locks are designed to allow the combination to be set or changed by the user if the lock is unlocked. The lock is unlocked in *Figure 1*. If it was turned to the locked position, as seen in *Figure 2*, the combination would be 114. The combination or dials still need to be scrambled to lock it with this combo. Once it's opened and returned to the home or unlocked position, the dials can be changed to new numbers for the next user. Picking the override cylinder isn't the only way to open these; they will manipulate very easily. *Figure 3* shows a close-up



Figure 5. In this photo, the second number is dialed correctly.

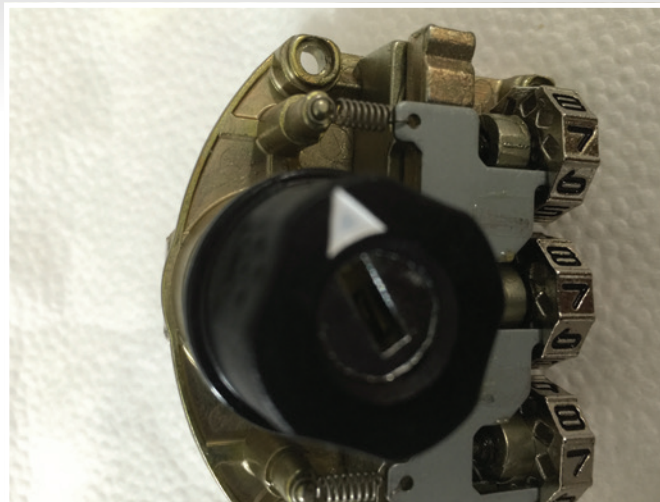


Figure 6. The top silver part ensures the wheels are properly aligned on a number and not partially off.



Figure 7. The part slides into the number wheels — one of which is shown here — each time the knob is turned to locked or unlocked.

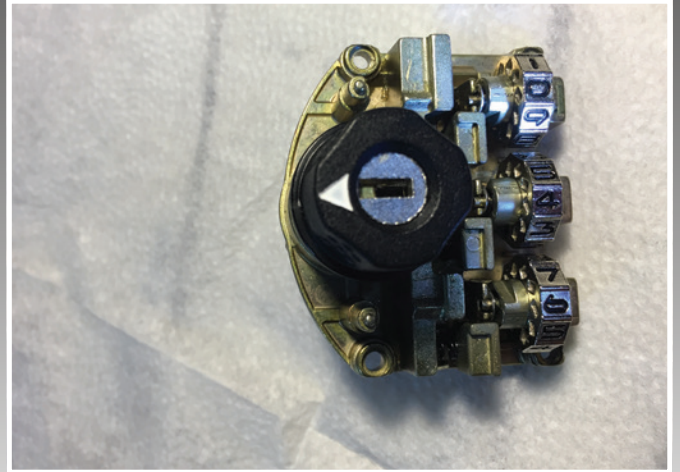


Figure 8. The top wheel is aligned, and the bottom two wheels are blocking the slide.

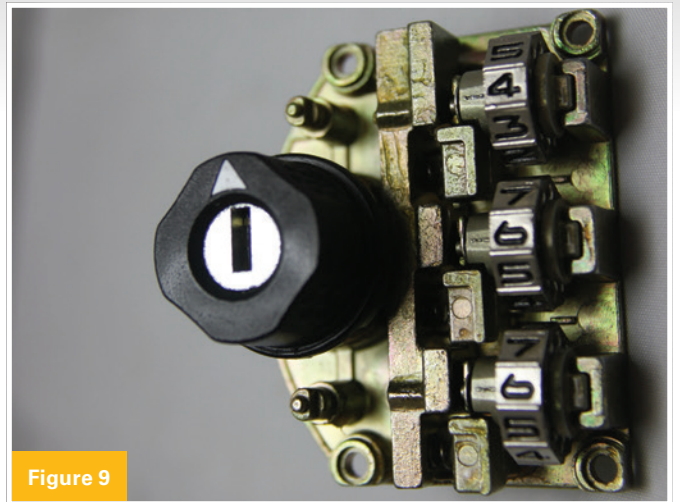


Figure 9

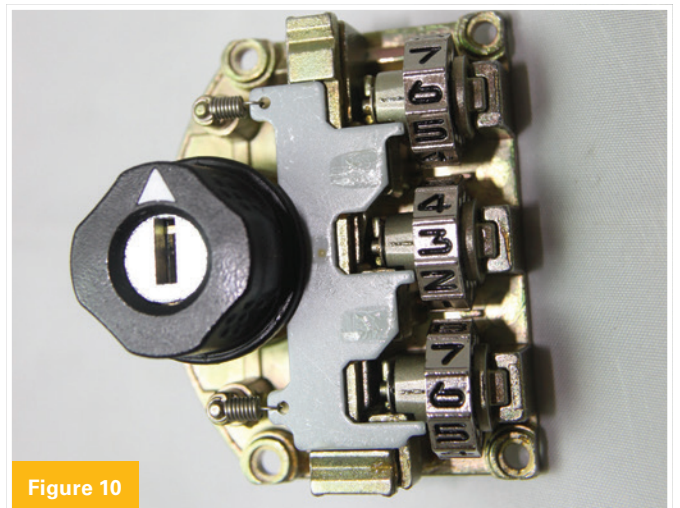


Figure 10

Figures 9-10. In this photo, the wheels are aligned, the knob is in the unlocked position and the slide keeps the disk in place.

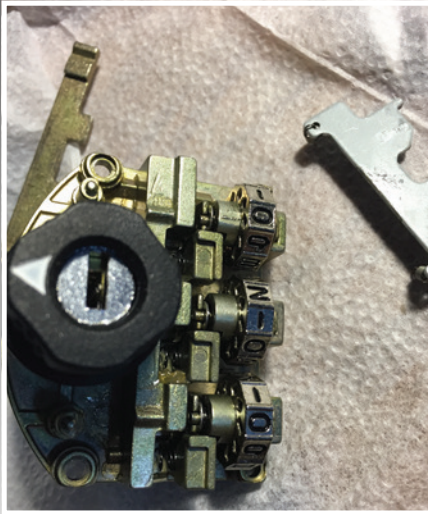


Figure 11. The black outer knob is not turned; only the core is turned by the key.

of the turn knob with the wrong combination. *Figure 4* shows the first number at the correct location. You can see how much further the knob turns with just the first number correct. Dialing the second number correctly, as seen in *Figure 5*, shows how much more the knob turns. The last number is just a matter of trying all ten numbers before it's open.

Time to look inside at how this lock operates. It's similar to how many of the multi-dial combination locks operate. The top silver part seen in *Figure 6* ensures the wheels are properly aligned on a number and not partially off. The part slides into the number wheels each time the knob is turned to locked or unlocked. One of these wheels is disassembled in *Figure 7*; they have five parts: an axle, the number wheel, a disc that has a large cutout or flat spot, a spring and a washer.

The flat spot is where the slide assembly moves toward the wheels. This is why it's so easy to manipulate; as the wheel is turned and pressure is applied to the slide by turning the knob, the slide will move in to the cutout or flat, allowing the knob to turn more. *Figure 8* shows the top wheel aligned, and the bottom two wheels are blocking the slide. The wheels are aligned

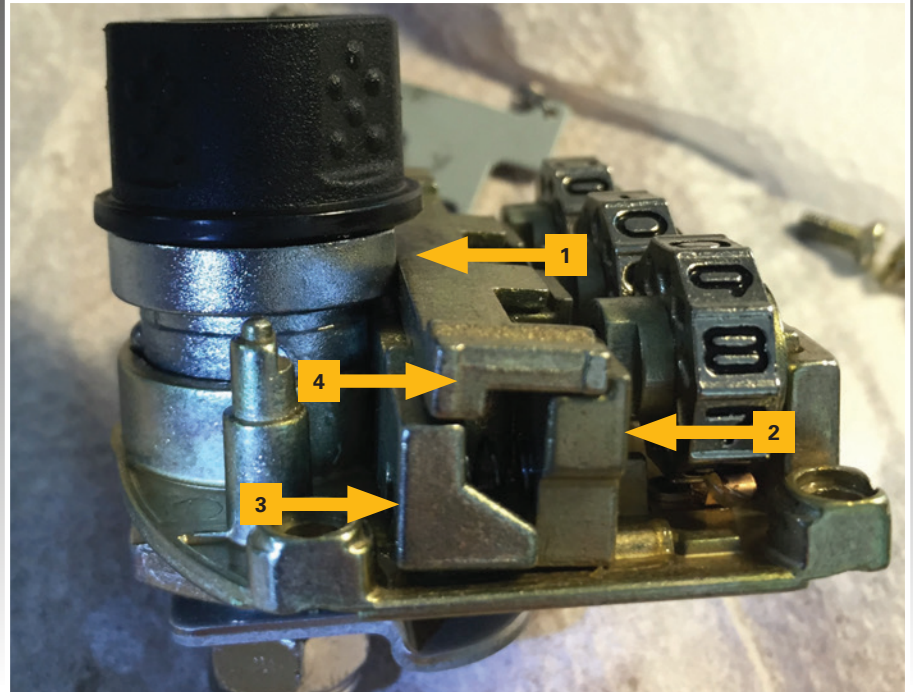


Figure 12. In arrow 1, the flat on the upper portion is rotated by the turn knob. It pushes the combination slide into the wheels. Arrow 2 is pointing to the combination slide. It moves into the gates on the wheels when all three wheel gates are aligned. In arrow 3, the bottom slide is moved by the keyed core or plug. Looking above this, you can see the smaller round body that is against it. Arrow 4 is pointing to the top slide that is moved by the turn knob. It pushes against the combination slide.

in *Figures 9 and 10*. The knob is in the unlocked position and the slide keeps the disk in place, allowing the number wheels to be turned to a new combination.

What happens if the override key is used? Notice in *Figure 11* that the black outer knob is not turned; only the core is turned by the key. The cylinder or core moves the bottom slide assembly toward the wheel disks and puts pressure against the combination slide, allowing the wheel disks. When they're turned to the correct location, they'll stay in this position as the outer wheel is turned. This allows a user with the override key to reset the combination. This is similar to what happens when you turn the knob to manipulate it. The difference is that, with the core turned, the wheel will stay at the open location. The turn knob pressure isn't enough to hold the wheel disk in place and allow the wheel to move independently of the disk.

These locks won't make us rich, but sometimes it's nice to know how they operate. I suspect you'll see more of them in the field, and knowing how they operate before being asked may make a few extra dollars. ☺



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.

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SERVICING BEST'S 45H/47H SERIES MORTISE LOCK

Tyler J. Thomas, CFDI, CIL, CRL, explains this lock's features and how to make basic repairs and changes.

THE 40H SERIES IS BEST'S CURRENT LINE OF COMMERCIAL MORTISE LOCKS. Its predecessor was the 30H series. While there are quite a few differences between the 40H and 30H series, the easiest way to differentiate the two is to visually inspect the rosettes. The 40H series lever return springs are located on the outside of the mortise lock case (see *Figure 1*), while the 30H series lever return springs are inside of the mortise lock case. The 30H series rosettes are nearly flush with the door, and the 40H series rosettes are not because they house the lever return spring mechanism.

The 40H series is made up of six mortise locks: 45H, 45HW, 47H, 47HW, 48H and 49H. The 48H and 49H are mortise deadlocks. The 45HW and 47HW are electrified versions of the 45H and 47H, respectively. The 45H and 47H mortise locks are the focus of this article.

The 45H mortise lock conforms to ANSI's Grade 1 Operational and Grade 2 Security requirements. The 47H mortise lock confirms to ANSI's Grade 1 Operational and Grade 1 Security requirements. Both are listed by Underwriters Laboratories (UL) for use on up to three-hour, A-labeled doors. The main difference out of the box between the 45H and 47H mortise lock is the use of BEST's 1E7JA high security cylinders in conjunction with the 47H mortise lock to conform to ANSI's Grade 1 Security requirements. The 45H and 47H mortise locks are otherwise serviced identically.

Servicing Tools

Aside from the tools we all carry with us, there are two tools available from BEST that greatly assist with the installation and servicing of the 45H/47H series. The first of these tools is the trim ring's spanner wrench, part KD316. This spanner wrench aids in the installation and removal of the trim ring. As we'll soon see in the repairs section of this article, a tight trim ring is paramount to keeping 45H/47H mortise locks in perfect working order. This spanner wrench is included in locksets ordered in quantities of 10 or more, but it can also be purchased separately.

If the 45H/47H series is being used in conjunction with an SFIC system, then the mortise cylinder wrench, part ED211 (*Figure 2*), is equally valuable. It makes



Figure 1. The 40H series lever return springs are located on the outside of the mortise lock case.



Figure 2. The mortise cylinder wrench, part ED211, can help with testing the timing of the lock.

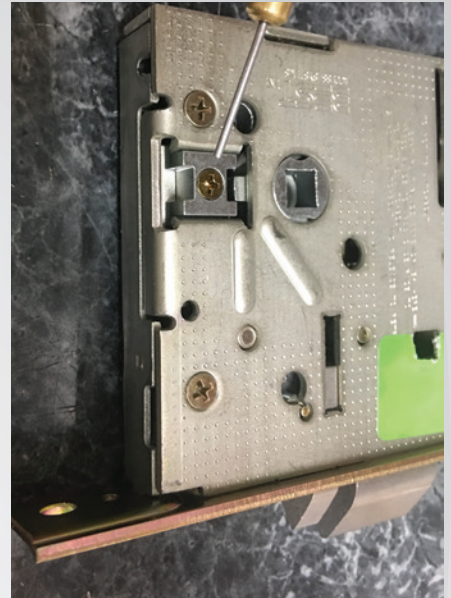


Figure 3. The hub toggles allow users to configure the locking and unlocking of the trim.

installing a mortise cylinder housing a breeze, and it also helps with testing the timing of the lock, for example. The mortise cylinder wrench can also be used when servicing any SFIC system.

Changing Function and Handing

The lock cases can be ordered function-specific or as a universal function, which can be configured into multiple functions. Three universal function groups — based on the required parts necessary for the group's functions — are available to be ordered. These groups are UNR (universal latch), which allows for ANSI F01 (passage), F04 (entry/office), F05 (classroom), F07 (storeroom) and F31 (exit) functions; UNT, which allows for F13 (dormitory) and F19 (privacy, bedroom or bath) functions; and UNAB (universal deadbolt) which allows for F12 (entry/office) and F20 (entrance/apartment) functions.

The function of 45H/47H mortise locks can be changed through the hub toggles, the shuttle and the inclusion of shuttle

screws (UNR only) in various positions, and/or the use of a stop screw (UNAB only). Each of these changes can be made without opening the lock case.

The hub toggles (*Figure 3*) allow you to configure the locking and unlocking of the trim. They are found on both sides of the case because of the 45H/47H mortise lock's ability to change handing, but more on that in a moment. The shuttle and shuttle screws allow the locksmith to reconfigure the relationship between internal parts. These reconfigurations thereby allow changes to the function of the mortise lock itself.

There are six total shuttle screw positions, including one for storing an extra shuttle screw. Positions 1 through 5 are clearly marked on the lock case (*Figure 4*). The extra shuttle screw, Position 0, can be seen on the shuttle when viewing the lock from the armored front (*Figure 5*). Finally, the stop screw is a self-tapping screw that allows the locksmith to fix the position of the outside lever by restricting hub movement.

As an example, let's change the func-

tion of a UNR lock case. Let's assume we need to change the lock's function from an ANSI F01/passage function into an ANSI F05/classroom function. To do so we would do the following:

1. Remove the shuttle screw from Position 1.
2. Install this shuttle screw into the Position 0 for storage and future use.
3. Because both functions share Position 5, this shuttle screw will be left alone.
4. Remove the outside (cylinder side) hub toggle screw, move the outside hub toggle to the up — or locked — position and tighten the screw.

The installation instructions included with each 45H/47H mortise lock also include a step-by-step primer on configuring the lock's function. If these instructions are not available to you in the field, they are quickly accessed via BEST's website at www.BestAccess.com. As with all mortise locks, changing the function on a universal case might require additional or different trim or might require parts to be removed. It's also vital to make sure that the function of the mortise lock is

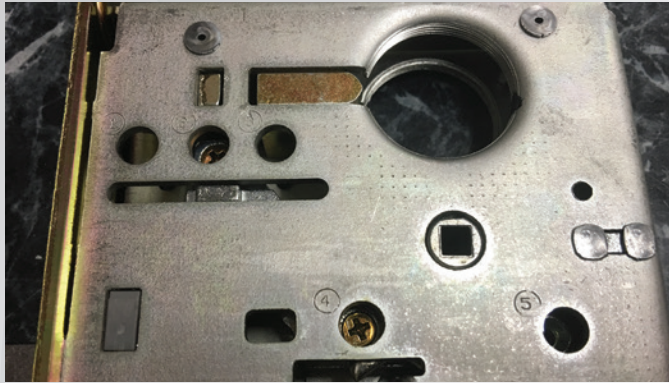


Figure 4. There are six total shuttle screw positions, including one for storing an extra shuttle screw. Positions 1 through 5 are clearly marked on the lock case.

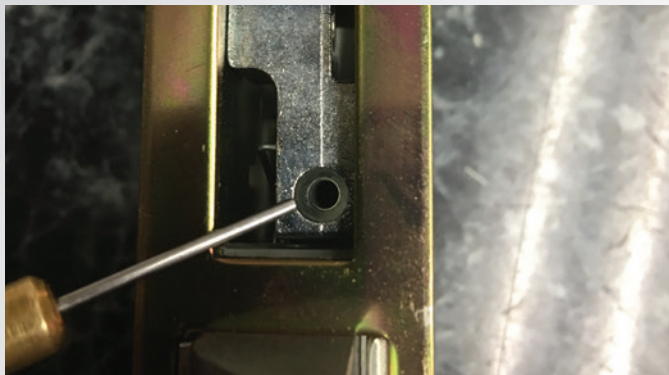


Figure 5. The extra shuttle screw, Position 0, can be seen on the shuttle when viewing the lock from the armored front.

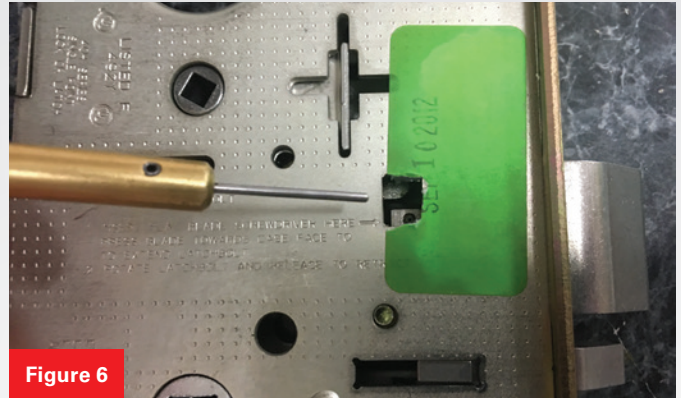


Figure 6

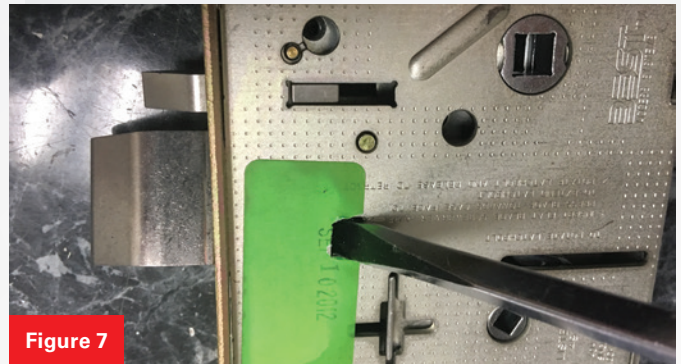


Figure 7

Figures 6-7. Changing the handing of the 45H/47H series mortise lock is also very simple. Behind the latch is an access point (Figure 6). Inserting a standard, or flat blade, screwdriver into this access point allows you to manually move the latch beyond the armored front and rotate it (Figure 7) to the desired handing.

checked prior to closing the door. Incorrect hub and/or shuttle screw positions can result in an inoperable mortise lock.

Changing the handing of the 45H/47H series mortise lock is also very simple. Behind the latch is an access point (Figure 6). Inserting a standard, or flat blade, screwdriver into this access point allows you to manually move the latch beyond the armored front and rotate it (Figure 7) to the desired handing.

Repairs

The two most common two repairs required, in my experience, for the 45H/47H series are both associated with the knob or lever and are considered normal wear and tear. The first is a sagging lever. This is nearly always caused by a broken lever return spring mechanism. Removing the

trim kit and visually inspecting the lever return spring mechanism(s) will reveal this. If in doubt, manually engaging the lever return mechanism with a large standard screw driver or the spindle assembly can also be used to confirm this. One other option is to hold the entire lever return spring mechanism in your hand and shake it. A broken spring will rattle; an intact spring will not. When this occurs, I replace both lever return spring mechanisms at the same time. I keep the used, still-functioning spring mechanism as an emergency backup. The second most common repair is a binding knob or lever. This is usually caused by a loose trim ring that has unscrewed against the lever, thus causing it to bind. Simply tighten the trim ring and test for function.

Aside from these repairs, misaligned

or loose mounting plates might result in the knobs or levers not turning, the latch binding when retracted or the deadbolt being difficult to throw or retract.

Repairs inside of the lock case are sometimes necessary. It should be noted that removal of the case cover voids BEST's warranty. BEST offers a limited lifetime warranty on the 45H/47H mortise lock as well as the 48H/49H mortise deadlock. Instructions for BEST's warranty process are found on the aforementioned website. ☺



Tyler J. Thomas, CFDI, CIL, CRL is a mobile locksmith in Northeast Georgia. He maintains a physical security blog at <http://asecured.life>

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VETERANS VEHICLE VIOLATED

Tom Gillespie, CML, CIL, CCL, explains
how avoiding assumptions helped secure
a job his shop might have missed.

WE RECENTLY RECEIVED A CALL FROM A MAN WITH A LOCK PROBLEM — nothing unusual so far. He explained he had a couple of broken locks on his truck and wondered if we could help.

At Starfleet Lock & Safe, Inc., we no longer do any automotive work. About three years ago, owner Gene Gyure made the decision to give up all automotive work. He lives for safe and vault work. He determined that because we're a small shop and stay very busy with safe, vault, safe deposit and commercial accounts, we didn't need it. At this point, we don't miss car and truck lock work one bit. My first instinct was to simply refer him to our locksmith colleague who specializes in vehicle lock service.

Still, instead of assuming, Amanda — our fantastic office manager — took the time to ask what he meant by his "lock problem." When he said that he was in the immediate area and could stop by and show us what he needed, she directed him to come by the shop right away. I'm glad she did.

When he pulled up, we were quite surprised. He mentioned that he had been referred to us by "another government agency" (no, we didn't ask).

This truck is a mobile service center for the U.S. Department of Veterans Affairs, and it was huge. This vehicle serves as a mobile meeting center for veterans. They can get updated information, have questions answered and receive counseling. The volunteer staffers go to colleges, fairs and regional celebrations to perform this important service.

Unfortunately, at a recent event, some items were stolen from the interior. While the volunteers were out front at their booth, someone forced his or her way into two file cabinets and stole laptops, smart phones and a purse. The side door was open for visitors to go in and pick up pamphlets and brochures.

Dozens of visitors went in and out during the trade fair. At the end of the day, the VA staffers realized their personal items were missing. They hadn't been concerned because the cabinet drawers had been "locked." Unfortunately, the small combination cam locks didn't hold up to a ten-second screwdriver attack. In the future, they will lock any valuables in a storage area in the cab of the truck. There is no connection from the cab to the mobile office section.

We went inside the truck and surveyed the work that was needed. We took some measurements, talked about the scope of the job and arranged a date to install the hardware. Here is how we addressed the problems.

The Job

Our job consisted of installing replacement cabinet locks. We explained the limitations of trying to protect a small wooden file cabinet. We also showed him the design differences between a cam lock and a small deadbolt. Because the job would take some time, we arranged for them to drop the truck off early the following Thursday morning.



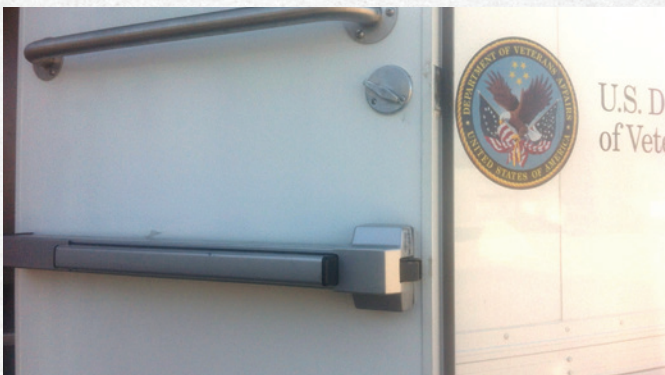
The VA Truck

Figure 1. The massive Freightliner was only about two years old. The custom-built body contained 120VAC, air conditioning and internet connection. It was divided into three sections with pocket doors for privacy during counseling sessions.



Main Entry Door

Figure 2. The main entry door contained an exit device and single cylinder deadbolt. The large exterior railing offered a handy support to use with the retractable steps that automatically extended when the door was opened.



Deadbolt and Panic Bar

Figure 3. On the inside was another grab bar mounted above the panic bar and deadbolt. The deadbolt was a Schlage BC500 with a Primus cylinder. The Von Duprin 22 panic bar provides easy entry and exit while the deadbolt provides security when the vehicle is off the road.



Passage Trim

Figure 4. Because the rim device was the only latch on the door, it was left extended at all times. Originally equipped with a keyed rim cylinder in the 230TP pull trim, a dummy rim cylinder was installed after a couple of inconvenient lockouts.



Inside Stairs

Figure 5. Because of the short and steep descent, as you exited the truck with the door closed, you actually hit the panic device with your shin or knee to depress the bar. Holding onto the door-mounted bar as you open it allows the motorized steps to project as the door swings.



Door Closer

Figure 6. Although the hydraulic door closer was at the top of the door, it wasn't out of the way. As you descended the stairs, the parallel arm bracket was just about head height.



Door Closer Bumper

Figure 7. After someone probably learned this lesson the hard way, a small bumper was installed as a safety measure. The vinyl-covered cover was padded to prevent injury (and lawsuits).

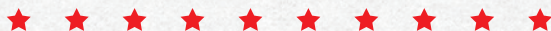


Truck Interior

Figure 8. The front and rear sections each contained a small couch, work table, two-drawer file and a flat-screen TV. The middle segment contained the entry door, a small restroom and the control panel for the on-board lighting, communications and electrical power.



**"THE LESSON LEARNED WAS ONE THAT
WE ALREADY KNEW: NEVER ASSUME."**



File Cabinets

Figure 9. The truck had two two-drawer wooden file cabinets, each with a combination cam lock on each drawer. They were actually well built and solid. These were used as storage for personal items when the truck was at an event.



Disassembly Limitations

Figure 10. Our initial plan was to remove the cabinets and work on them in the shop. After we removed the drawers, it was evident that the couch and other cabinetry would need to be removed to do that. Instead we simply marked each drawer location and took them inside.



Existing Lock Problem

Figure 11. The break-in was quick and silent; a medium-size flat-blade screwdriver was used to snap the drawers open. The combination wasn't used; the cam on the back simply bent away as the leverage was applied. Each drawer had different-length cams that locked into shallow slots in the upper frame.



Replacement Lock Solution

Figure 13. The four new Olympus ND80 diamond-back locks were all keyed alike. They're equipped with a sturdy sliding bolt and pin tumbler cylinders. The small stand-off rings were used on each screw to space the lock body away from the face of the drawer.



The Olympus Kit

Figure 12. At Clark's 2015 Trade Show in Chicago, we'd picked up an Olympus Cabinet Lock Service Kit. This came with a great selection of various Olympus locks and optional parts. We've since added extras of the most popular items we use.



Make an Alignment Jig

Figure 14. After measuring all four drawers, it was evident that the new locks couldn't simply replace the old locks. Not only was the diameter larger (from $\frac{3}{4}$ " to $\frac{7}{8}$ "), the hole centers were about $\frac{1}{4}$ " apart. Gene used a strip of scrap wood to make an alignment jig.



Clamp and Drill

Figure 15. After double-checking all of the placement information, we used a pair of Quick Grip bar clamps to secure the jig. We used a $\frac{7}{8}$ " spade bit to drill through the material to re-position and enlarge the hole.



Drill Post Holes

Figure 16. Two $\frac{1}{4}$ " holes were required for the support posts of the reinforcing trim plate, which ties the lock and plate together. This plate mounts with 10-24 screws and eliminates the problem of stripped screws in wood.



Remove and File

Figure 17. During the drilling of the cylinder hole on the first drawer, the drill motor seemed to snag momentarily as it broke through the drawer face material. After the jig and clamps were removed, a medium half-round file was used to shave a thin amount of material away, allowing the lock to seat firmly.



Realignment Complete

Figure 18. This shows the three newly drilled holes for the lock body and support posts. Also visible is a remnant of the old smaller hole at the top edge of the new one. The small hole to the left is one of two holes for the pull handle.



Inside Surface

Figure 19. Using Brad Point bits (also known as W-Point tips) produces a clean hole by allowing the outside cutting edges of the bit to cut the outside diameter of the hole before the center breaks through. These cabinets are not fiberboard or pressed wood; they're solid wood with a laminated finish.



The Test Fit

Figure 20. The Olympus ETS3-26D optional $\frac{1}{4}$ " through bolt reinforcing trim plate was used. In addition to adding strength to the installation, it covers the small curved opening left by realignment from the old setup. A small set screw releases the cylinder for rekeying.



Strike Plates

Figure 21. The Olympus #10-052 slotted strike plate was used for rigidity. The old cam locks had used a milled (yet shallow) slot that was created as the cabinet was assembled. The old cams barely grabbed into it and bent away easily when the drawers were forced open.



Up and Under

Figure 22. A view from lying on the floor shows where the new strike will be mounted and the material that needs to be cut away to allow the bolt to fully throw. Gene tackled this by using a small DeWalt drill that fit easily in the small opening and gave him room to drill upward.

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Modify to Fit

Figure 23. Because the four combination cam locks had been randomly installed, the original holes were offset in different directions from the first drawer. This required some modification to the strike plates. Here, Gene grinds a thicker strike to form a small notch required to make a secure installation.



Down on the Floor

Figure 24. While I was sweating over a hot digital camera, Gene was back down on the floor. Here he has contorted his body enough to drop, find, see and install the two screws securing the strike plate. After this, he only had three more to go.



Cleaning Up

Figure 25. You never know what you'll find when you're cleaning up. As he vacuumed, Gene brushed against the black communications panel to the left. Although it was "locked," it bounced open. He took the time to fix that problem, and while it was open he found some out-of-place cabling that he also re-secured. We pride ourselves in taking care of our customers.



The Finished Product

Figure 26. The completed installations looked great. After the drawers were removed and the locks mounted, the strike plates were drilled and installed in the drawer framework. The pull handles had been removed during drilling and were replaced, and then the drawers were reinserted and locked in place.



Safe and Secure

Figure 27. The new Olympus pin tumbler locks offer a substantial increase in security over a basic cam lock. The 26D finish blends with the pull handles and other trim. The addition of the trim plate provided reinforcement and covers the unsightly partial opening left by the old locks.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

**"THE NEW OLYMPUS PIN TUMBLER
LOCKS OFFER A SUBSTANTIAL
INCREASE IN SECURITY OVER
A BASIC CAM LOCK."**

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

The customer was called to retrieve the vehicle. When he arrived, he was very pleased with the end result. He appreciated that we took the time and effort to provide a clean, professional installation and cleaned up afterward. He also was impressed that Gene had taken the time to fix the other panel and loose cable issues.

The lesson learned was one that we already knew: never assume. The initial call was almost referred to a colleague because we assumed that it was automotive in nature. It turns out that it was nothing of the sort.

If we would have handed this call off, I'm sure our friend would have fixed the problem. However, because we were recommended to this person by "another government agency" to whom we had previously provided service, we could have damaged that relationship without realizing it by handing this job to someone else. ☺

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Tom Gillespie, CML, CIL, CCL, is a 46-year veteran of the security industry. Since 1969, he has worked in the retail, manufacturing and distribution segments of the industry. Tom has taught educational seminars for ALOA and dozens of locksmith associations throughout the U.S. and Canada and has authored numerous books, newsletters, articles and columns for a variety of security industry publications.

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My ASF Journey

Vernon Kelley, CMIL, CFDI, CPL, ICML, IFDI, talks about his first ALOA Convention — and the scholarship that helped him get there.

IN THE FALL OF 1989, AN AIMLESS, JOBLESS, WARY 23-YEAR-OLD PUNK KID ANSWERED a help wanted ad that simply said “Locksmith wanted. Will train.”

That kid was me.

Frankly, I just thought it was the “next” job, because I sure did need one.

Little did I know then that it would become my full-time, lifetime occupation.

Fast forward to 1992. The ALOA convention was in Baltimore that summer. At the time, I was working for a man named Rich Hess. Rich was all about education and recognized what a great opportunity it would be for me to apply for a scholarship because the convention would be so close to my South Jersey homestead.

So, I applied for an ALOA Scholarship Foundation scholarship — and, thankfully, I was awarded one. I wasn’t even a member of ALOA!

For the uninitiated, the ALOA Scholarship Foundation (ASF) is a non-profit 501(c)(3), tax-exempt educational organization. The purpose of this foundation is to provide

funding for locksmith educational programs and assistance to individuals who wish to pursue a career in locksmithing. While ASF shares a headquarters and staff resources with ALOA SPAI, ASF is an entirely independent entity.

I had never been to an ALOA convention before — or any other locksmith convention, for that matter — and what a spectacle I found it to be! The scholarship included admission to the show floor, four full-day and three half-day classes, a banquet ticket and a check to help cover travel. The classes were packed, as was the show floor. It was the first time that I attended any locksmith class. It was also the first time that I was ever out of town for an extended period left to my own devices. There were a lot of firsts in my life and career associated with my Baltimore excursion, all thanks to ASF.

I thought the package was very generous, surely. But to me, the convention had a higher worth than the face value of the scholarship. It was really the first time that I had a chance to meet locksmiths from all over the country. And I got to see ALOA in motion working to provide services to its members in its most direct, tangible fashion. I was a little awestruck, to be honest.

Ironically, almost all my classes involved either automotive or safe work, neither of which I’m very involved in today as an institutional locksmith. But lasting impressions were very definitely made on me, not the least of which was spending four days with the legendary instructor Ray D’Adamo. How legendary was Ray, you ask? The ALOA Continuing Education Instructor of the Year award is now named after him. I found Ray to be highly skilled, congenial and humorous; he was a master of ceremonies in his classroom. I like to think that just a little bit of that rubbed off on me when I started teaching my own classes years later.

While at that convention, I developed

a certain sense of camaraderie with other members of our profession and with ALOA. After a time, I found ways to give back to the industry. (Former ALOA president Bill Young calls it “stewardship”.) I joined ALOA and got heavily involved with locksmith associations at both the local and national levels, serving on various boards of directors in numerous capacities. Now, 25 years later in an acute case of “what goes around comes around,” I now serve on the ASF board of directors.

That’s right; the “kid” who got the scholarship now helps confer the scholarships.

All of this is because of an ASF scholarship given to me back in 1992. I’d like to think that it was money well spent.

Let’s reconsider my self-analysis from the beginning of this story. Aimless?



Vernon Kelley is shown here in 1992 as a recipient of an ALOA Scholarship Foundation scholarship to the ALOA Convention & Security Expo in Baltimore.

Hardly. Jobless? Not after nearly 28 years in the locksmith business. Wary? I guess I just hide it better these days. Twenty-three years old? I guess that one can only dream about revisiting that age again!

So, let me ask; have you submitted your ASF application? If not, turn to page 55 of this issue to get started now! You never know what “firsts” in your career it might lead to. ☺



Vernon Kelley, CMIL, CFDI, CPL, ICML, IFDI, has been involved in the locksmith industry since 1989, and is a licensed locksmith in the State of New Jersey. A former ALOA SPAI northeast director, he is currently the first trustee of ALOA Institutional Locksmiths (AIL) and an ALOA Scholarship Foundation director.

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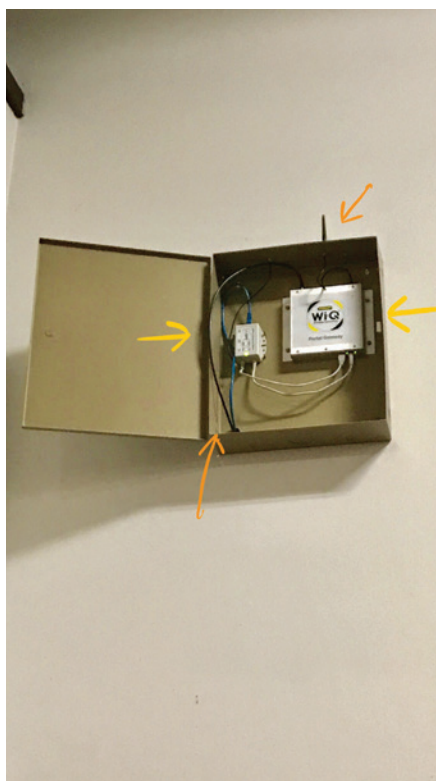


Figure 1. This photo shows an example of a portal gateway as it would be installed for Power Over Ethernet.

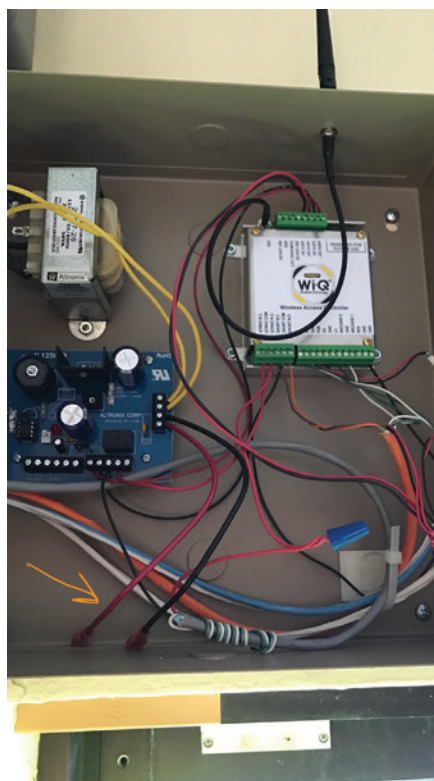


Figure 2. The arrow points to the two wires coming out of the power supply that would charge the battery if there was one.



Figure 3

Figures 3-4. Figures 3 and 4 are the outside and inside trim of a Schlage combination mortise lock.

Not Quite "Sleepless in Seattle"

Follow the guidance of **Tony Wiersielis, CPL, CFDI**, for a drama-free conversion from one brand of lock to another.

THIS MONTH, I'M GOING TO SHOW YOU ANOTHER CONVERSION FROM ONE brand of lock to another. This time, we're going from Schlage to Best Wi-Q stand-alone locks in both mortise and cylindrical. This particular project took place near Seattle, WA, and was done on a number of public buildings. In case you're not familiar with Wi-Q, I'll go over the basics of how it works in the next few paragraphs.

The System

A simple Wi-Q system consists of the software installed on a network computer and a portal gateway connected to the network. The portal gateway communicates with stand-alone cylindrical and mortise locks, panic bar trims and with another device called a WAC.

WAC stands for wireless access controller, which is a small device used to trigger other devices such as electric strikes, magnets, electrified locks, and panic devices and handicapped door openers that require access control. A WAC will often be used with a card reader to trigger an external power supply that energizes or de-energizes one of these devices. The WAC itself requires a power supply to run it, which will be in the enclosure with it.

Figure 1 is an example of a portal gateway as it would be installed for Power



Figure 4



Figure 5. This image shows the inside trim removed and what's under it.

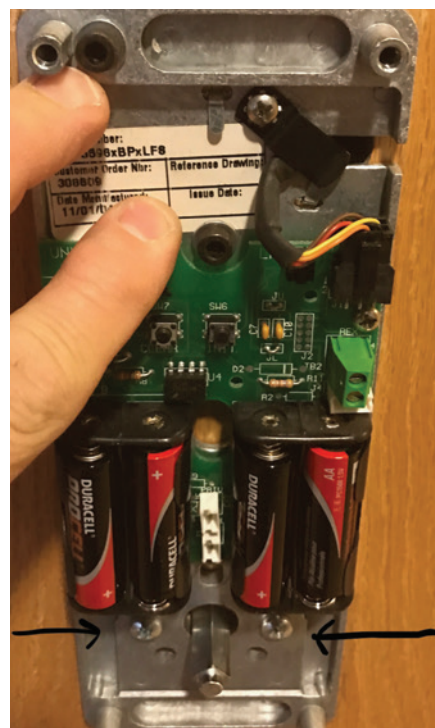


Figure 6. The author is pointing to two Allen-head screws and below that, the arrows point to two Phillips-head screws. These four connect the backplate to the outside trim and will need to be removed.

Over Ethernet (POE). POE doesn't require a separate power supply to run the portal because, as the name implies, the power is coming in on the network cable. The right yellow arrow points to the portal and the left one to a "splitter" that separates the power from network. Note the two wires coming out of the splitter and plugging into the bottom of the portal: the left is network and the right is power. If POE isn't used, the portal will have a power supply in the enclosure to run it and also to trickle charge an optional battery backup. In that case, the network cable will plug directly into the bottom of the portal.

The top orange arrow in *Figure 1* points to a small "bayonet" antenna, and the bottom points to a black wire running through the enclosure and into the wall. This is a 20-foot cable connecting to a remote antenna, usually an omnidirectional

or directional antenna depending on where the locks are located. Usually, you'll use two of the same type of antenna.

Figure 2 is an example of a WAC in its enclosure along with its transformer and power supply. The arrow points to the two wires coming out of the power supply that would charge the battery if there was one. At the top of the enclosure, you see a single bayonet antenna; one of the remote antennas could be used here if needed.

The basic operation of this system is as follows: The software is set up on the host computer. The portal gateway is brought into the system and the locks (or other devices) are signed into the system. Once signed in, they associate with a portal wirelessly. Information such as users for that device and time zones are set up in the software, which sends it to the portal and out to the lock.

Once the information is in the lock, it stays there. Decisions to grant or deny access are made at the lock. The lock and portal communicate at regular intervals (beaconing) and new information — such as access granted or denied at the lock — is reported back to the computer

The Retrofit: Mortise

Figures 3 and 4 show the outside and inside trim of a Schlage combination mortise lock. On the front, notice the odd position of the cylinder; you'll see the reason in a moment. On the back, you see three of the four screws that hold it on and the arrow pointing to the fourth. *Figure 5* is the inside trim removed and what's under it. In *Figure 6*, I'm pointing to two Allen-head screws and below that, the arrows point to two Phillips-head screws. These four connect the backplate to the outside trim and will need to be removed.



Figure 7. The author has loosened the screws on the backplate; it's hanging on a cable, and he's pointing at the connector at the end of the cable.



Figure 8. This photo is a close-up of that connector.



Figure 9. This image shows the backplate removed.



Figure 10. In this photo, the author is removing the outside trim.



Figure 11. This image shows the old chassis.



Figure 12. In this photo, the author is taking at least one battery out of the backplate before tossing it into a box of old locks.

Take a look at *Figure 7*. You'll notice I've already loosened the screws on the backplate; it's hanging on a cable, and I'm pointing at the connector at the end of the cable. *Figure 8* is a close-up of that connector. Now look back at the orange arrow in *Figure 7*. See that screw? On every lock I removed after this one, I loosened that screw before I unscrewed the backplate; it just made it easier.

Figure 9 shows the backplate removed. Notice that the studs unscrewed from the outside trim instead of the screws unscrewing from the studs. There's a lesson in this, and here it is: Anytime you

have an outside trim with studs through the door, make sure your inside hole is at least as big as the stud itself.

Why? I've seen installs where the studs passed through a $\frac{3}{8}$ " hole on the outside, but the inside hole for the screw was smaller; just enough for the screw to fit through it. If the stud unscrews like *Figure 9*, it won't fit out through the screw hole on the inside will it? Good luck with that.

Figure 10 shows the outside trim being removed. Take note that the mortise cylinder in the trim isn't screwed into the mortise lock, nor is it anywhere near

where you'd usually find it in relation to the hole in the lock chassis. In fact, there isn't even a hole for it, which we'll need to address when we prep for the new lock.

Figure 11 is the old chassis. Close examination reveals that there aren't any threads in the cylinder hole at all. In *Figure 12*, I'm taking at least one battery out of the backplate before I toss it into a box of old locks. I do this so I don't have a live board shorting out in the box on me. That may sound a little anal, but I like to think I learn from my experiences.

Here's the experience: Back when 9-volt Mikita drills with the skinny batteries

I looked at the ground, thinking they had recoated the asphalt or something. As I did that, my customer stated, in a calm voice, “You’re on fire.” I had a few screws in my pocket, and apparently the battery shorted out against them. My pocket caught fire, but I was able to pull the battery out and swat it out. It ruined the jacket and the battery, and it almost ruined me. You can’t make this stuff up.

Figure 13 is all the parts to a Wi-Q mortise lock laid out so you can see them. I'll show you each of them as we progress through the installation.

I drew some extra arrows on *Figure 14* with my Apple pen. The black arrow at the top points to one of the “B” holes. This hole goes through the door, and most of the wires pass through it to the inside of the door. It will be on the right or left side of the prep, depending on the hand of the door. We always want this hole to be directly behind several wires that come out of the back of the outside trim. I’ll explain the orange arrows in a moment.

A collection of disassembled electronic components, including a main unit, a display, a keypad, and various connectors and cables, laid out on a dark surface.

[illegible]

47



Figure 17. This image relates back to the orange arrows in Figure 14; the author is drilling a 1/4" pilot hole for each of the "A" holes and not the full-size holes. The full-size holes are drilled after the jig is removed.



Figure 18. This photo shows the completed prep on the outside of the door.

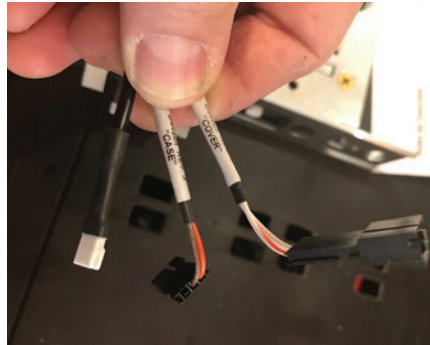


Figure 19. This image shows the three wires that come out of the bottom of the chassis.



Figure 20. The author's thumb is on the "cover" of the chassis, and his forefinger is on the "case." Whichever of these faces the inside of the door indicates which RQE to use.

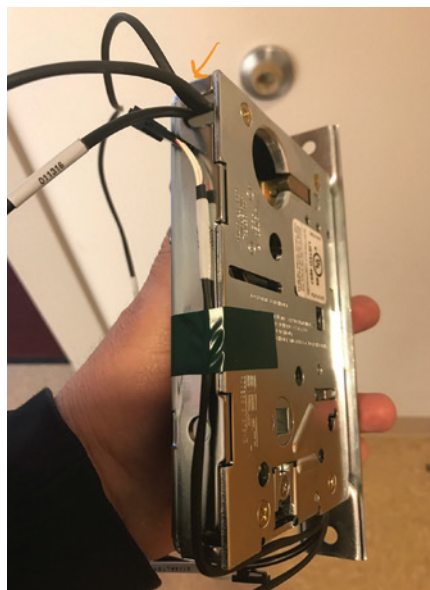


Figure 21. The author has taped the unused wire to the chassis to keep it out of the way.

back to the orange arrows in Figure 14; I'm drilling a 1/4" pilot hole for each of the "A" holes and not the full-size holes. The full-size holes are drilled after the jig is removed.

Figure 18 shows the completed prep on the outside of the door. There's an extra hole on the inside of the door that you don't see; this one is for the wires coming out of the bottom of the chassis, as you'll see shortly. The holes with the orange circles are the old holes that won't be used.

Figure 19 shows the three wires that come out of the bottom of the chassis. The white one is the motor wire, and the other two are RQE (request to exit). Notice that the RQE wires are labeled "case" and "cover." This is because we're only going to use one of them. Now look at Figure 20. My thumb is on the "cover" of the chassis, and my forefinger is on the "case." Whichever of these faces the inside of the door tells us which RQE to use. If the case faces in, we'll use the "case" wire.

In Figure 21, I've taped the unused wire to the chassis to keep it out of the way, being careful not to let the tape touch any moving parts. Don't ever cut the unused wire off; if you use the wrong wire, you won't be able to correct it. The orange arrow points to the top three wires that

"If the cylinder sticks out too much, there will be a gap between the door and the trim because the cylinder is pushing it out."



Figure 22. The author is about to pass the top wires through the “B” hole.



Figure 23. The wires are in place, and the author has screwed in the chassis as well.

pass through the “B” hole.

Figure 22 shows the bottom wires passed through the bottom hole. I’m about to pass the top wires through the “B” hole. *Figure 23* shows the wires in place. At this point, I’ve screwed in the chassis as well.

Figure 24 shows the spring cage installed below the cylinder. The pencil is pointing to a line on the cylinder that gives you a reference for how far to turn it in. When you fit the outside trim over the cylinder later, you want the core to be even with the face of the trim. I always use a core or construction core when



Figure 24. The spring cage is installed below the cylinder.



Figure 25. This photo shows an outside trim for a cylindrical lock, but it’s being used to show the wires that will feed through the “B” hole.

I’m doing this. The core lines up with a figure-8 hole in the trim. Trying to line these up without a core in place is tedious. Why waste the time?

Figure 25 is an outside trim for a cylindrical lock, but I’m using it here to show you the wires we’ll feed through the “B” hole. The only difference between this trim and the mortise trim is the absence of a cylinder hole. These wires are the battery wire, motor wire, a wiring harness for switches within the lock and the thin gray antenna wire. You want to be especially careful not to break or pinch the antenna wire.



Figure 26. The author is feeding the wires through the hole, starting with the biggest.



Figure 27. A close-up of the wires is depicted here.

In *Figure 26*, I’m carefully feeding the wires through the hole, starting with the biggest. Note that the pink arrow is pointing to the white door sensor switch in the chassis; this will interact with a magnet in the plastic strike box when the door is closed. *Figure 27* is a close-up of the wires. When you’re at this point, have the outside lever and spindle set up and within arm’s reach. Once all the wires are through and you’ve fitted the trim over the core, put the spindle and lever through the trim. This will keep the trim from falling off and pulling the wires out as it aims for the floor.



Figure 28. Take care that the cylinder isn't sticking out too much. If it does, there will be a gap between the door and the trim because the cylinder is pushing it out.



Figure 29. The wires have been passed through the door and backplate.



Figure 30. The author is wire-tying the bottom motor wire and RQE to the spring cage to keep it out of the way.



Figure 31. Once he connected the wires, the author wire-tied them in a bundle to keep them out of the way.



Figure 32. The bottom cover has been placed over the backplate and secured with two T-15 Torx security screws on the sides.

Look at the core in *Figure 28* and notice that it's relatively flush with the trim. If the cylinder were screwed in too far, you'd notice and correct it. Take care that the cylinder isn't sticking out too much. If it does, there will be a gap between the door and the trim because the cylinder is pushing it out. Don't let that happen.

In *Figure 29*, the wires have been passed through the door and backplate. I'm tightening the top 1/4-28 screw (of two; the bottom screw is already in place) that holds the plate to the trim. After that, I usually wire-tie the bottom motor wire and RQE to the spring cage to keep it out of the way, as in *Figure 30*.

Next, connect the wires we passed through the door. Separate the battery wire and antenna and point them up out of the hole until ready for them. The motor wire is white and connects to the wire that came out of the bottom hole. The three wires from the top of the chassis are the white, purple and gray wires and connect to the corresponding connectors on the wiring harness. The blue connector is not used on this lock.

The purpose of the colored wires is as follows: White is for the door sensor. Gray is for the key override switch, which detects when a key is used instead of a card. Purple is the latch bolt sensor. Blue is a deadbolt sensor, but this lock is latch only.

Once the wires are connected, I usually wire-tie them in a bundle, as in *Figure 31*, to keep them out of the way. In *Figure 32*, the bottom cover has been placed over the backplate and secured with two T-15 Torx security screws on the sides. The inside lever has been installed and tightened with a 1/8" Allen wrench. The battery box (with four AA batteries) has been connected and installed. The black arrows point to a groove on each side of the backplate. The top cover will slide down these grooves.

Figure 33 shows the top cover, which



Figure 33. The top cover contains the locks antenna.

contains the locks antenna. The gray antenna wire is connected, and the wire is gently coiled within the cover to avoid getting pinched when sliding the cover on (*Figure 34*). That cover is secured with two Torx screws, just like the bottom. Install the strike and box with the magnet at the top, as in *Figure 35*.

Other than signing the lock into the system, the installation is complete. Make sure the door closes and latches and the key operates properly. Observe the two lights on top of the outside trim while you pull down the inside lever. You should get a green blink that indicates the RQE works. If it doesn't blink, you mixed up the "case" and "cover" wires and need to switch them. Present the temporary card and check that the door unlocks.

Cylindrical Prep

The cylindrical prep is easier to do because you don't drill as many holes as



Figure 34. The gray antenna wire is connected, and the wire is gently coiled within the cover.



Figure 35. The author has installed the strike and box with the magnet at the top.



Figure 36. The image shows the outside trim without a cylinder hole.



Figure 37



Figure 38



Figure 39

Figures 37-39. These photos show the chassis with its motor wire, then the backplate for the chassis — including the RQE unit and wire — and then the door sensor and jumper, with two large washers for fire suppression.



Figure 40. The prep is shown here. The pink circles are the new holes.



Figure 41. The author drilled a small hole on the inside only and ran the wire from the door sensor through it.



Figure 42. The purple door sensor wire is connected to the white wire, and the purple jumper is connected to the purple wire. The blue and gray wires aren't used.



Figure 43. The backplate for the chassis is screwed in.

a mortise prep, and some of the wires are used differently. *Figure 36* shows the outside trim without a cylinder hole. The *Figures 37-39* show the chassis with its motor wire, then the backplate for the chassis — including the RQE unit and wire — and then the door sensor and jumper, with two large washers for fire suppression.

Figure 40 shows the prep. The pink circles are the new holes. The two black arrows point to the two holes for the studs on the chassis, and the green arrow points to an old hole that's being used for the top stud on the outside trim. *Figure 41* shows how I drilled a small hole on the inside only and ran the wire from the door sensor through it.

The battery connector, RQE and antenna wire are connected as they would be for a mortise lock. *Figure 42* shows the purple door sensor wire connected to the white wire and the purple jumper connected to the purple wire. The blue and gray wires aren't used.

Figure 43 shows the backplate for the chassis screwed in. The pink arrows point to the chassis motor wire and the RQE wire coming out of the circuit board (yellow arrow). The green arrow points to the large washer that should be placed on both sides of the chassis.

At this point, the installation continues pretty much the same as the mortise installation: the battery and antenna are connected, the top and bottom covers go on, and the inside lever is installed on the chassis. 🌀



Tony Wiersielis, CPL, CFDI, has more than a quarter century 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.

Meet the Instructor: Ross Squire

Ross Squire, ML, CFL, CAI, gives us insight on his teaching philosophy and his thoughts on ALOA certifications.



IN OUR RECENTLY ESTABLISHED MEET THE INSTRUCTOR SERIES, KEYNOTES IS speaking with ALOA Education instructors to allow readers to get to know them better. We recently spoke with Ross Squire, ML, CFL, CAI, to get his thoughts on teaching and ALOA Education.

When did you join ALOA?

In 2009, and I have maintained my membership since that time.

How long have you been an ALOA instructor, and what classes do you typically teach?

I first started teaching with International Association of Investigative Locksmiths (IAIL) in 2003 and continued teaching after our merger with ALOA. Typically, the class that I teach deals with forensic case management, with the bulk of my real-life examples being in the automotive field.

What is your background?

My background is in commercial and automotive locksmithing. I commenced my four-year apprenticeship — indentured to my father — in 1975. In fact, it was a feature article on forensic locksmithing in the Locksmith Ledger that inspired me to follow my father and elder brother into the profession to develop as a forensic locksmith, which has always been my main interest. I was always curious about the methods used to bypass locks. That is — when there had been a lock bypass — how the perpetrators did it and what signs they left behind. Starting in the late 1970s, I acted as a consultant to state and federal police, the National Roads and Motorists' Association (NRMA) road service, insurance and technical divisions. I managed the shop front of our family locksmithing business, and in 1985 I started to incorporate more and more forensic consultations and investigations alongside the general locksmithing business. I finally closed the general locksmithing shop to concentrate exclusively in the field of investigative forensic locksmithing in July 2000.

What inspired you to start teaching?

Teaching seemed like a natural extension of my profession, partly because there were virtually no other specialist forensic locksmiths in Australia. I found that I often had to brief other locksmiths on how to conduct forensic investigations and send out reports. When I became aware that forensic locksmithing was a well-established profession in Canada and the United States and that training and certification was offered, I enrolled in courses with IAIL and qualified soon after as a Certified Forensic Locksmith (CFL). I was pleased to be invited to subsequently assist and teach modules in the certification program and have done so every year since.

How do you go about organizing your class material?

I focus always on a recent case and use it to illustrate the stages in the procedure. This gives me all the physical exhibits I need and combines theory and results. I tend to follow the stages in chronological order from the first contact with the client, to the finished report and invoice.

What is your teaching style?

I like a combination of lecturing and demonstration; tell and then show. I always have illustrations and notes on hand and, where possible, pass exhibits around the class. I don't like to be too rigid in following a program, and I'm generally happy to answer questions at any stage of the presentation. I prefer to provide the guidance so that the class can reach their own conclusions to an investigative problem. I believe that in doing so, the work being taught is reinforced and is more likely to stay with the participants. More recently, I have been able to include some practical hands-on examination of vehicles in salvage centers local to the ALOA conference at which I am instructing, and I believe that this has been of great benefit in demonstrating the techniques I have honed over many years.

What do students get out of the classes you teach?

I hope my students get some new insights into current procedures and an awareness of the importance of how materials are handled, so as not to compromise their findings. At the back of my mind always is the awareness that these findings might end up as evidence in court, and will be given intense scrutiny. I hope my students come away from the classes with an awareness of investigative locksmithing as a scientific and paralegal discipline as well as a physical and intellectual skill.

What kind of a difference have you seen ongoing education make for those who pursue it?

Ongoing education is critical in this field. Security systems — both mechanical and electronic — are constantly evolving, and of course those on the dark side are constantly developing new ways to circum-



Squire was the very proud recipient of the 2016 Ray D'Adamo ACE Instructor Award.

vent them. An investigative locksmith must stay up to date with training and have an open mind to all the possible ways a security system could be defeated before he or she will be able to state confidently, based on firsthand experience and the available evidence and without bias, what has in fact occurred.

How do you think certifications benefit security professionals?

Throughout the locksmithing profession, certification is essential. Being certified provides potential clients an assurance of a certain level of skill, knowledge and professionalism. For the investigative locksmith, certification shows that the person being contracted is competent in the work and understands due process. Being certified and earning a qualification gives the investigative locksmith confidence that they have the level of skill required to undertake the work. Challenging the expertise and knowledge of an expert witness in court proceedings that may follow on from an investigation is often a part of the cut and thrust of the legal process. An independent, verifiable and recognized qualification acts as clear and definitive proof that the person who has done the work is qualified to do so. I firmly support the opportunities for peer review and certification offered for all security professionals through ALOA Continuing Education programs.

What are your hobbies?

Well, I don't have all that much time outside work. Seriously though, I love my food, and I'm keen to feed anyone. My wife and I love live music and we have been lucky to have flown across Australia, England and the United States to see some of our favourite bands. Above all else, I value and cherish my family immensely. I am recently, as you might know (most of the world who would listen certainly does already) a proud Abuelo.

Name one interesting fact about you that most ALOA members might not know?

Well, as I just mentioned, I am a proud new grandfather. I'm also something of an inventor; I have held patents and helped develop enhanced security products for automotive (used by Ford and Mazda), domestic and commercial applications.

What classes should ALOA offer in the future?

ALOA and the IAIL have a very comprehensive training program, and they make every possible effort to stay very much up to date. I believe the best way to ensure ALOA stays on top of our professional educational needs is for members to remain active and voice their opinions. It's the members at the front line who see innovations in the industry as they occur from the manufacturers and as they are overcome in the communities in which we live and work.

What is your favorite ALOA memory?

Apart from making lifelong friends, my favorite moments are in class when the whole group suddenly understands something both complex and critical at the same time. It's a wonderful experience to see all those reactions and satisfied expressions all at once. ☺



ALOA Scholarship Foundation, Inc.

Purpose

The ALOA Scholarship Foundation (ASF) is an independent, educational, non-profit 501(c) (3), Tax-exempt Corporation established in 1993 to:

- Encourage and provide for educational services, programs and materials concerning locksmithing and security devices and procedures.
- Develop scholarship and assistance programs for persons interested in pursuing a career in the security and locksmithing field.
- Solicit funds necessary to implement the purposes of the Foundation.
- Perform and do any and all such other acts as are necessary, convenient and proper for the attainment of these objectives.

What are the Scholarships for?

The ALOA Scholarship Foundation can be an important source for educational funding. We support all locksmith efforts to seek education via technical training and business management from all educational providers. Scholarships are not limited to ALOA educational programs. While ALOA does have an impressive history in locksmith training and testing, *the independent ALOA Scholarship Foundation encourages locksmiths to apply for funding for any of the following industry related training:*

- A full ALOA convention package which includes: four or five full-day classes and lab fees with lunch, two evening seminars, two half-day classes and two days of exhibits
- A full SAFETECH convention package which includes: four full-day classes and lab fees with lunch, one day of exhibits and a Kick-Off party ticket
- All courses offered at the Aaron M. Fish Security Training Center and ALOA Certified Education classes, presentations and seminars offered at regional conventions and other facilities
- Industry-related education via technical training and business management programs offered by other institutions that meet the educational criteria of the ASF board

Limited travel and lodging to the above events may be awarded depending on individual need and funds available.

Selection Criteria

The ALOA Scholarship Foundation awards scholarships for locksmith education based on several criteria, which include:

- Individual applicants' financial needs
- Written statement discussing how they will benefit from the scholarship and attesting to the desire, willingness and ability to use such training to further themselves within the industry
- Demonstration of commitment to the locksmith industry
- Industry experience; those applicants applying without industry experience must submit a detailed strategic plan on how they intend to achieve their goal of building a career in the locksmith industry
- Three letters of recommendation from individuals who have personal knowledge of the applicant's background, character and work ethic. One recommendation must be from within the locksmith industry
- Availability to attend the event for which the award is given

Application forms for Scholarships are available from the ALOA website, in *Keynotes* magazine, at ALOA and SAVTA booths at local shows and from the ALOA office by request.

Scholarship applications for ALOA or SAFETECH conventions must be submitted at least **75 days** prior to the first day of the event for which the scholarship is being requested. Scholarships for other educational events must be submitted at least **40 days** prior to the event being requested, in order to be given adequate consideration.

The ALOA Scholarship Foundation Board of Directors awards all scholarships within **30 days after the event deadline** for submission of applications.



ALOA Scholarship Foundation, Inc.

An educational, non-profit 501 (c) (3) tax-exempt corporation – Federal Tax Id# 75-2478220

Headquarters Office • 3500 Easy Street • Dallas, Texas 75247-6416 • 214-819-9733 • FAX 214-819-9736

asf@ALOA.org

SCHOLARSHIP APPLICATION

Name _____ PRP/STPRP Level _____ ALOA/SAVTA# _____

Home Address _____ City _____ State _____ Zip _____

Home Phone _____ Work Phone _____ D.O.B. _____ / _____ / _____

Fax _____ Email _____

Employer _____ Supervisor's Name _____

Work Address _____ City _____ State _____ Zip _____

Position _____ ☐ Full Time ☐ Part Time Take Home Pay _____ per _____

Educational Level _____ (years) Degree/Certification (if any) _____

Previous Recipient? ☐ No ☐ Yes Date _____ Location _____

Length of Time in Locksmithing _____ (years) Membership in Trade Associations (list by name) _____

Marital Status _____ Number of Dependents _____ Annual Adjusted Gross Income _____

Classes Desired _____ Date of Classes _____

Organization Sponsoring Classes: ☐ ALOA ☐ SAVTA Other _____ Location _____

If granted an ALOA Scholarship, will you be able to pay for your own air travel/transportation and hotel accommodations? ☐ Yes ☐ No

If no, please explain (use another sheet if necessary): _____

ALOA Scholarships are granted to selected individuals desirous of entering the locksmithing field or to selected individuals already in the locksmithing field who wish to improve their professional skills through education. The ASF Selection Committee on an objective and nondiscriminatory basis will review applications. The Selection Committee shall hold all materials and information pertaining to the applicant's financial status and background in strict confidence. Applications for non-convention classes must be received 40 days prior to the date of the non-convention class desired and will be reviewed as they are submitted. Applications for classes at the SAVTA or ALOA convention must be received 75 days prior to the event. All scholarships will be awarded within 30 days after the event deadline for submission of application.

Please include with this form your most recent Federal Tax Return and a letter stating: your financial situation, your reason for applying for a scholarship, what you plan to do with the knowledge you obtain and any other information you feel may be helpful to the Scholarship Board in making its decision. In addition, attach three letters of reference from individuals who have personal knowledge of your background and character. The letters should contain their names, addresses and phone numbers. One reference must be from a locksmith or someone in the locksmith industry, and it is helpful if the person is an ALOA or SAVTA member. All scholarship recipients will be required to provide a 3" x 5" photograph.

APPLICATION CHECKLIST

Only COMPLETE applications will be considered for scholarships. An application is considered incomplete unless ALL of the requested information is received before the deadline: **75 days for SAVTA and ALOA convention** OR 40 days prior to the non-convention classes. Please send this application after checking off each of the items below.

- ☐ I have filled in each blank on this form.
- ☐ I have written and enclosed a letter explaining my reason for applying.
- ☐ I have enclosed three letters of reference (**at least one must be from a locksmith or someone in the locksmith industry**).
- ☐ I am submitting **75 days prior to the SAVTA or ALOA convention classes** OR 40 days prior to a non-convention class or event.
- ☐ I have enclosed a 3" x 5" photograph.
- ☐ I have enclosed a copy of my most recent tax return.

CERTIFICATION OF APPLICANT

I certify that the information contained herein, and all supplemental forms are complete and correct to the best of my knowledge. I further certify that if I am selected as a scholarship recipient I will use the knowledge gained for the improvement, development and advancement of the locksmithing profession. Also, if asked by an authorized ASF official, I agree to give proof of the information that I have given on this application. I understand that if I choose not to provide the additional proof that I may not receive the Scholarship Award. I understand that this application is valid only for the event/class specified and is not transferable.

I understand that I may be asked to give permission to the ALOA Scholarship Foundation Inc. to perform a background check.

As a potential recipient of a scholarship awarded by the ALOA Scholarship Foundation, Inc. (ASF), for the purpose of receiving specialized training in locksmithing or related fields, and as a condition of accepting this scholarship should it be awarded to me, I agree that, should I fail to complete the training for which the award has been issued, without at least 30 days notice or an excused absence granted by the ASF, at the sole discretion of the ASF, I may be held liable for the amount of the awarded Scholarship and I agree to reimburse the ASF for the amount of the scholarship awarded.

Should an emergency occur prior to or during the training period that prohibits my attendance at or completion of the training, I understand that it is fully my responsibility to contact the ALOA Educational Director to make arrangements to complete the training or obtain an excused absence or I may be liable for the reimbursement of the Scholarship.

Signature _____ Date _____

Please send all completed applications to The ALOA Scholarship Foundation at the address at the top of the page.

Revised 10/2015

DISTRIBUTORS**Accredited Lock Supply Co**

Phone: 800-652-2835
 Fax: 201-865-2435
www.acclock.com

ADEL Group (Asia) Limited

Phone: 852-298-96328
 Fax: 522-989-6329
www.adellock.com/en/

Capitol Industries

Phone: 514-273-0451
 Fax: 514-273-2928

Car And Truck Remotes.Com

Phone: 678-528-1700

Clark Security Products

Phone: 858-505-1950
 Fax: 858-974-6720
www.clarksecurity.com

Clay By SALTO

Phone: 770-452-6091
 Fax: 770-452-6098

Direct Security Supply, Inc.

Phone: 800-252-5757
 Fax: 800-452-8600

Doyle Security Products

Phone: 800-333-6953
 Fax: 612-521-0166
www.doylesecurity.com

Dugmore and Duncan, Inc.

Phone: 888-384-6673
 Fax: 888-329-3846

Easykeys.Com

Phone: 877-839-5390
 Fax: 704-714-7400
www.easykeys.com

ECS America LLC

Phone: 305-629-9599

Fried Brothers Inc.

Phone: 800-523-2924
 Fax: 215-627-2676
www.fbisecurity.com

Hans Johnsen Company

Phone: 214-879-1550
 Fax: 214-879-1520
www.hjc.com

Hardware Agencies, Ltd.

Phone: 416-462-1921
 Fax: 416-462-1922
www.hardwareagencies.com

H L Flake Co

Phone: 800-231-4105
 Fax: 713-926-3399
www.hlflake.com

IDN Incorporated

Phone: 817-421-5470
 Fax: 817-421-5468
www.idn-inc.com

Intermountain Lock & Security Supply

Phone: 800-453-5386
 Fax: 801-485-7205
www.imlss.com

Jovan Distributors Inc

Phone: 416-288-6306
 Fax: 416-752-8371
www.jovanlock.com

KeylessRide

Phone: 877-619-3136
 Fax: 512-864-9452
www.keylessride.com

KeyNet.Com

Phone: 773-340-1442
 Fax: 815-774-0880
www.keynet.com

LKC Supplies

Phone: 888-683-5394
lkcsupplies.com

Lockmasters, Inc.

Phone: 859-885-6041
 Fax: 859-885-1731
www.lockmasters.com

Locksmith Ledger International

Phone: 847-454-2700
 Fax: 847-454-2759
www.locksmithledger.com

Locksmith Resource

Phone: 312-789-5333
www.locksmithresource.com

MBA USA Inc

Phone: 859-887-0496
 Fax: 859-887-9491
www.mbausa.com

McDonald Dash Locksmith Supply Inc

Phone: 800-238-7541
 Fax: 901-366-0005
www.mcdonaldldash.com

Midwest Keyless

Phone: 815-675-0404
 Fax: 815-675-6484
www.yourkeylessremote.com

MMF Industries

Phone: 224-216-3340

RoadClubs.Com LLC

Phone: 844-661-6851

Southern Lock & Supply

Phone: 727-541-5536
 Fax: 727-544-8278
www.southernlock.com

Stone & Berg Wholesale

Phone: 800-225-7405
 Fax: 800-535-5625

TimeMaster Inc

Phone: 859-259-1878
 Fax: 859-255-0298
www.time-master.com

Transponder Island

Phone: 440-835-1411
 Fax: 216-252-5352
www.transponderisland.com

Turn 10 Wholesale

Phone: 800-848-9790
 Fax: 800-391-4553
www.turnten.com

UHS Hardware

Phone: 954-866-2300

U.S. Lock Corp.

Phone: 800-925-5000
 Fax: 800-338-5625
www.uslock.com

U.S. Security Supply Inc.

Phone: 916-565-5100
 Fax: 916-720-0207
www.ussecuritysupply.com

Westinghouse Security

Phone: 407-567-7789

Wilco Supply

Phone: 800-745-5450
 Fax: 510-653-5397
www.wilcosupply.com

Zipf Lock Co

Phone: 614-228-3507
 Fax: 614-228-6320
www.zipflockco.com

MANUFACTURERS**A1 Security Mfg Corp.**

Phone: 804-359-9003
 Fax: 804-359-9415
www.demanda1.com

ABUS KG

Phone: 492-335-634151
 Fax: 233-563-4130
www.abus.com

ABUS USA

Phone: 623-516-9933
 Fax: 623-516-9934
www.abus.com

Access Tools/High Tech Tools

Phone: 800-323-8324
 Fax: 305-635-1077
www.caropeningtools.com

ACS-CleverTech

Phone: 514-581-7760

Advanced Diagnostics USA

Phone: 702-799-9705
 Fax: 702-728-5233
www.adusa.us

AE Tools and Computers

Phone: 913-856-6678
 Fax: 913-856-6653
www.aetools.us

Air Tow Trailers

Phone: 909-392-2170
www.airtow.com

Ajustco

Phone: 855-258-7826

Alarm Lock Systems Inc.

Phone: 631-842-9400
www.alarmlock.com

Allegion

Phone: 317-810-3230
 Fax: 317-810-3989
www.allegion.com

American Security Products

Phone: 800-421-6142x1013
 Fax: 909-685-9685
www.amsecusa.com

ASSA High Security Locks

Phone: 800-235-7482
 Fax: 800-892-3256
www.assalock.com

ASSA, INC

Phone: 800-235-7482
www.assalock.com

August

Phone: 415-364-8340
www.august.com

Auto Key Max

Phone: 626-417-5617

Big Red Safe Locks

Phone: 541-533-2403
 Fax: 541-533-2404
www.bigredsafelocks.com

Boa Security Technologies

Phone: 516-576-0295
 Fax: 631-470-8099
www.boasecuritytechnologies.com

Bullseye S.D. Locks LLC

Phone: 859-224-4898
 Fax: 859-224-1199
www.bullseyesdlocks.com

Cal-Royal Products Inc

Phone: 800-876-9258
 Fax: 800-222-3316
www.cal-royal.com

Cap Popper

Phone: 321-806-0415
www.cappopper.com

CCL Security Products

Phone: 800-733-8588
 Fax: 847-537-1800
www.cclsecurity.com

CODELOCKS Inc

Phone: 714-979-2900
 Fax: 714-979-2902
www.codelocks.us

CompX Security Products

Phone: 864-297-6655
 Fax: 864-297-9987
www.compX.com

CR Laurence Co Inc

Phone: 800-421-6144
 Fax: 800-262-3299
www.crlaurence.com

Dakota Alert Inc

Phone: 605-356-2772
 Fax: 605-356-3662
www.dakotaalert.com

DETEX Corp

Phone: 800-729-3839
 Fax: 830-620-6711
www.detex.com

Digipas USA, LLC

Phone: 860-373-9634
 Fax: 888-580-8078

Don-Jo Manufacturing, Inc.

Phone: 978-422-3377
Fax: 978-422-3467
www.don-jo.com

Door Controls International

Phone: 800-742-3634
Fax: 800-742-0410
www.doorcontrols.com

Dorma Architectural Hardware

Phone: 717-336-3881
Fax: 717-336-2106
www.dorma-usa.com

Dugmore & Duncan, Inc.

Phone: 888-384-6673
Fax: 888-329-3846
www.dugmore.com

FireKing Security Group

Phone: 800-342-3033
Fax: 708-371-3326
www.fireking.com

FJM Security Products

Phone: 800-654-1786
Fax: 206-350-1186
www.fjmsecurity.com

Ford Commercial Truck

Phone: 630-353-1300

Framon Manufacturing Company Inc

Phone: 989-354-5623
Fax: 989-354-4238
www.framon.com

Grip Tight Tools

Phone: 908-964-3427
Fax: 877-600-4747
www.griptighttools.com

Guangdong Archie Hardware Co. Ltd

Phone: 861-892-5978811
Fax: 860-757-85589301
www.archie.com.cn

Hollon Safe

Phone: 888-455-2337
Fax: 866-408-7303
www.hollonsafe.com

Hornady Security Products, Inc.

Phone: 877-214-4470
Fax: 308-382-5761

HPC, A Hudson Lock Co.

Phone: 847-671-6280
Fax: 847-671-6343
www.hpcworld.com

HY-KO Products Co.

Phone: 330-467-7446
Fax: 330-467-7442

Identicard Access Control

Phone: 717-295-8039

IKEYLESS LLC.

Phone: 502-442-2380
www.ikeyless.com

Inkas Safe Mfg

Phone: 416-744-3322
Fax: 416-744-3535
www.inkas.ca

International Key Supply

Phone: 631-433-3932
internationalkeysupply.com

Jet Hardware Mfg., Co.

Phone: 718-257-9600
Fax: 718-257-0973
www.jetkeys.com

JLM Wholesale, Inc.

Phone: 800-522-2940
Fax: 800-782-1160
www.jlmwholesale.com

JMA USA

Phone: 817-385-0515
Fax: 817-701-2365
www.jmausa.com

KABA ILCO Corp.

Phone: 252-446-3321
Fax: 252-446-4702
www.kaba-ilco.com

Kenstan Fixture Services USA, LLC

Phone: 855-342-3132
Fax: 516-612-0101
www.kenstanfixtureservices.com

KEY-BAK/West Coast Chain Mfg

Phone: 909-923-7800
Fax: 909-923-0024
www.keybak.com

Keyline USA

Phone: 800-891-2118
Fax: 216-803-0202
www.bianchi1770usa.com

KEYTECHNOLOGIES BY MG LLC

Phone: 407-620-1787
www.keytechtools.com

Klassy Keys Corp.

Phone: 888-844-5397
Fax: 800-610-6670
www.klassykeys.com

KSP-Killeen Security Products

Phone: 800-577-5397
Fax: 508-753-2183
www.iccore.com

LAB Security

Phone: 800-243-8242
Fax: 860-583-7838
www.labpins.com

Laser Key Products

Phone: 281-339-3501
Fax: 281-559-4336
www.laserkeyproducts.com

LockPicks.Com By BROCKHAGE

Phone: 408-437-0505
Fax: 408-516-9642

Locksmith.CZ

Phone: 420-604-226550
www.locksmith.cz

Lucky Line Products, Inc.

Phone: 858-549-6699
Fax: 858-549-0949
www.luckyline.com

MARKS, U.S.A.

Phone: 516-225-5400
Fax: 516-225-6136
www.marksusa.com

Master Lock Company LLC

Phone: 800-558-5528
Fax: 414-444-0322
www.masterlock.com;
www.americanlock.com

MBE Engineering Ltd.

Phone: 212-845-9826
www.mbkeyprog.com

Medeco Security Locks

Phone: 540-380-5000
Fax: 540-380-5010
www.medeco.com

MUL-T-LOCK USA, Inc

Phone: 800-562-3511
Fax: 973-778-4007
www.mul-t-lockusa.com

Olympus Lock Inc

Phone: 206-362-3290
Fax: 206-362-3569
www.olympus-lock.com

Optex

Phone: 800-966-7839
Pacific Lock Company
Phone: 888-562-5565
Fax: 661-294-3097
www.paclock.com

Pacific Lock Company

Phone: 888-562-5565
Fax: 661-294-3097
www.paclock.com

Paxton Access

Phone: 864-751-3505
Fax: 855-329-7298
www.paxton-access.com

Philadelphia Hardware Group

Phone: 858-642-0450
Fax: 858-642-0454
philhardware.com

Pingan Industrial Co. Ltd.

Punch Point Tools, LLC
Phone: 985-872-1713
Fax: 877-721-1878
www.punchpoint.com

Retrolock Corp

(Was Townsteel, Inc.)
Phone: 626-965-8917
Fax: 626-965-8919
www.townsteel.com

Rolland Safe & Lock

Phone: 214-845-6804
Fax: 214-845-6693

Rosslare Security Products, Inc

Phone: 866-632-1101
Fax: 817-305-0069
www.rosslaresecurity.com

Sargent & Greenleaf, Inc.

Phone: 859-885-9411
Fax: 859-885-3063
www.sargentandgreenleaf.com

ScopePlus Labs, Inc

Phone: 386-427-2462
Fax: 386-427-5962

SECO-LARM USA INC

Phone: 949-261-2999
Fax: 949-261-7326
www.seco-larm.com

Securam Systems, Inc

Phone: 805-988-8088
Fax: 805-988-1580
www.securamsys.com

Secure-T- Agency (STA)

Phone: 514-963-3701
Fax: 514-447-1024

Securitech Group Inc

Phone: 718-392-9000
Fax: 718-392-8944
www.securitech.com

Security Door Controls

Phone: 805-494-0622
Fax: 866-611-4748
www.sdcsecurity.com

Select Hinges

Phone: 269-910-1988
selecthinges.com

Stanley Security Solutions Inc

Phone: 317-849-2250
Fax: 317-806-3797
www.stanleysecuritysolutions.com

STRATTEC Security Corp.

Phone: 414-247-3333
Fax: 414-247-3564
http://aftermarket.strattec.com

Trine Access Technology

Phone: 718-829-2332
Fax: 718-829-6405
www.trineonline.com

Ultra Lift Corporation

Phone: 800-346-3057
Fax: 408-297-1199
www.ultralift.com

Vault Structures Inc

Phone: 800-226-3990
Fax: 239-332-5593
www.vaultstructures.com

WFE Technology Corp. - WAFERLOCK

Xhorse USA INC
Phone: 407-608-4288

SERVICE ORGANIZATIONS**Lang Labs Inc**

Phone: 780-978-1309

Lockmasters Security Institute

Phone: 859-887-9633
Fax: 859-884-0810

WEBLEASE USA

Phone: 952-745-4105
Fax: 952-475-3579
webleaseusa.com

FOR SALE

Central Illinois Locksmith Business For Sale:

Highly profitable and established business for 35 years. Exceptional commercial and residential accounts. Provides service to numerous towns within 30 mile radius. Well-stocked storefront and service vehicle. Large inventory of supplies including safes. Retail storefront is 70 x 40. Great walk-in traffic. Will assist with transition to new owner. Excellent opportunity for ambitious person. Reasonably priced. Local financing available to qualified buyer. 217-892-8384 <4/17>

Southwest Wisconsin Locksmith Business For Sale

Great location in beautiful Green County Monroe is an hour Southwest of Madison with close proximity to Milwaukee and Chicago. Sale includes: shop, inventory, equipment, and service vehicle. 10+years established client base with recurring income.

Come and see what the Swiss Cheese capital of the USA has to offer! (608)214-5236 monroelock@gmail.com <5/17>

MOVE YOUR SAFES

- 1.) Life goose-neck tandem hydraulic trailer w/ winch
- 2.) Set of roller lifts 10,000 pond capacity
- 3.) Chariott bumper pull single axle trailer w/ winch (new)

Located in Ocala, Florida

Contact Irving 352-351-2841 <5/17>

EMPLOYMENT

Wanted: MVP Pro

If you have a working, extra or unwanted Advanced Diagnostics MVP Pro, I'd like to buy it. Please call or email me (415-500-5398 or sfkeyman@gmail.com). Premier Locksmith, San Francisco <4/17>

Classified Advertising Policy

Classified advertising space is provided free of charge to ALOA members and for a fee of \$2 per word, with a \$40 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 emailed to adsales@aloea.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.

Work With Us

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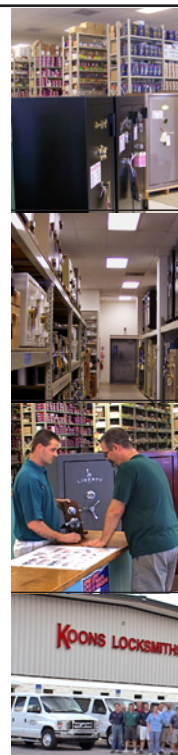
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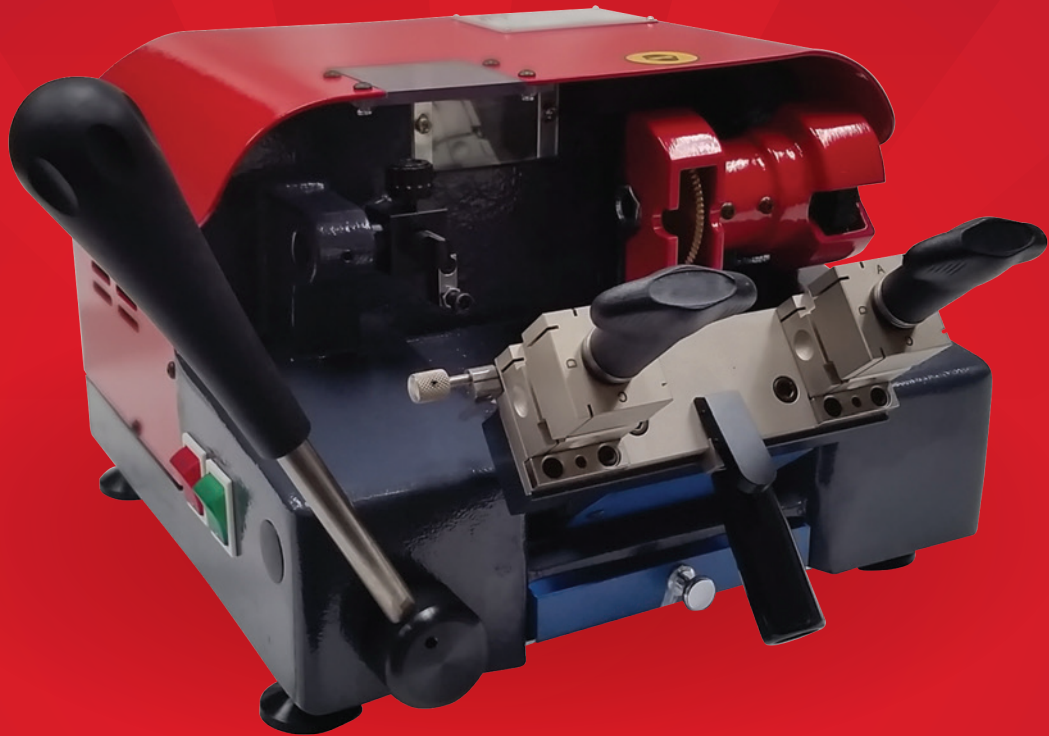
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