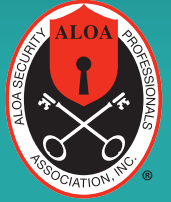
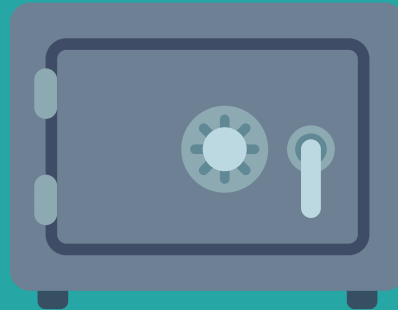
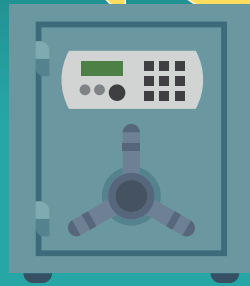


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C-42

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Support Association Events

YOU'LL SEE THAT WE have some safe-related features this month in the magazine. If you didn't read the pricing survey in the March issue, you missed that safe and vault work can be really lucrative. Take a look at the articles in this issue and see if this work sounds interesting to you, and then hurry to register for the SAFETECH convention! There are still open classes and time to register.

It is rarely a bad idea to diversify your business offerings or your own personal skill set. Why not take a few classes in Tulsa and get your feet wet? I can attest to the fact that the SAVTA folks are a really welcoming crowd, and you could make some wonderful new business contacts for job referrals. Go to SAVTA.org for more SAFETECH information and to register.

ALOA Convention

We also have the 2020 ALOA Convention and Security Expo coming up in July in Kansas City, and registration is opening soon. In the brochure included with the May issue, we will have complete information on classes and events. We've added a ton of new classes this year, so take a look and see what interests you, and go sign up. There are always a few

classes that fill up super quickly, so don't miss your chance to get your first pick.

Many of you are excited to have the convention return to the central U.S. (it's so easy to drive to from many locations), and some of you could be wondering why we chose Kansas City. If you've never been there, it's such a great place to visit! Check out the brochure for a list of some local activities, but there's a lot to do for you and the family, from theme parks, the Kansas City Zoo and museums to nightlife and tours.

The downtown Kansas City Power and Light District is an exciting area with restaurants and shopping, and they have events happening there nearly every week. And when they don't, it's a fun place just to walk around and then go grab some food or a drink.

Security Leaders Business Conference

ALOA is announcing the return of another event: the Security Leaders Business Conference. This is an outstanding event for business owners, management and other leaders who want to up their business knowledge, share best practices and dive deep into the business side of the security industry. This event has four days of seminars, one-on-one meetings and networking in an intimate setting.



Everyone who has attended in past years has raved about the event, so mark October 12-15 on your calendar, and look for more information soon.

As you can see, ALOA and SAVTA have a lot going on in the coming months! While these events are important to attend, also consider attending some of your local locksmith associations' smaller events in the next few months as well. Support our association partners, and support our ALOA instructors who often provide education at those events.

Respectfully,

Jim Wiedman, CML
President
ALOA Security Professionals
Association, Inc.
president@aloea.org

In Appreciation of ALOA Partners

AS A MEMBERSHIP organization, we are tasked with meeting the needs and promoting the interests of our members as best we can. We do this in a variety of ways, from providing classes and putting on conventions to networking opportunities, *Keynotes*, legislative efforts and member discounts.

The association boards and staff work hard to bring you all the benefits you have available to you as members. But we couldn't do everything we do without the involvement of our many partners who make some of these benefits a reality.

We count all of the various local and state locksmith associations as some of our most involved partners. ALOA has a booth presence at many of their events, which lets us to recruit and interact with members. ALOA also supplies instructors for the local associations' classes, allowing our rigorous instructional standards to reach our members where they are so they can learn year-round.

In the same vein, we give you a discount with our partner ClearStar, letting you share information with and interact with professionals on their site at a reduced rate.

Helping Your Business

Through our job center on the website, we allow you to find new work opportunities or new employees for your business. And on the business side, ALOA partners with Multiview to co-publish

the online Ultimate Guide for Security Professionals, giving you access to information from the industry's top suppliers. By using innovative search technology, this buyer's guide makes it easy for members to find the products and services they need to run their business. Members can search by keyword and filter by location, enabling the most advanced, on-demand results. You can access it at www.aloa.org.

Saving You Money

ALOA also partners with a variety of companies to offer members discounts on so many things, from car rentals at conventions to hotel room blocks and other travel discounts. Look for those whenever we have an upcoming convention or other event so you can take advantage.

Hopefully you've read up on ALOA's latest member benefit, as it's a big one. Members have been asking about health insurance benefits for years, and we are proud to now offer this through Lighthouse Insurance Group (LIG). Through LIG, members can get individual, family or group plans tailored to your specific needs, and options include major medical, short-term health plans, vision and dental plans, critical care coverage, life and several different supplemental health options. For the group plans, you can even include part-time, seasonal and other employee classes that are not typically covered with other health insurance options. If you want to receive a quote or more information, you



can call the LIG team at (888) 582-9813 to speak with a licensed advisor or visit www.ligmembers.com/ALOA to schedule an appointment.

Through these partners, ALOA is able to bring you more benefits at lower costs, allowing us to stretch your membership dues further. Please support these ALOA partners when possible so we can continue to bring you all of the benefits we can! So when you have a need, check out the ALOA job center, the Ultimate Guide, stay in the convention room block, go to some local conventions and classes, and use our member car rental discounts. When you support ALOA partners, you're supporting the association too.

Have a wonderful start to your spring, enjoy the warmer weather, and see you at SAFETECH!

Mary A. May

Mary A. May
Executive Director
mary@aloa.org



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ASSOCIATION NEWS

Announcing the 2020 Security Leaders Business Conference



SAVE THE DATE FOR ALOA'S NEWLY ANNOUNCED Security Leaders Business Conference! To be held October 12-15 at The Guest House at Graceland in Memphis, TN, this invigorating event lets business owners and management network and learn in an intimate setting. Attend and learn more about finance, marketing, growing your business and a host of other topics!

More information and registration information will be available soon. For more information, email conventions@aloa.org.



ALOA 2020 Registration Opens Soon

THE DAY IS ARRIVING: ALOA 2020 REGISTRATION is soon opening! Join us in Kansas City, MO, for a full menu of smokin' events, classes, networking and products. See the full brochure included with the May issue of *Keynotes*, and hurry to register! Classes will fill up quickly.

For questions, email conventions@aloa.org.

NEWS BRIEFS

» Jeff McCormick joins **ABLOY USA** as CLIQ System specialist. Based in the Irving, TX, office, he will support and train customers on PRO-TEC2 CLIQ products and develop documentation for integrators and sales. McCormick has 15 years of experience in the software and technical support field and most recently worked for 12 years in the security industry for Keri Systems, a manufacturer and provider of card access control and integrated security systems.



» **The Steel Window Institute (SWI)** is celebrating its 100th anniversary this year. Since its inception in 1920, the mission of SWI has been to serve the manufacturers of windows and doors made from hot-rolled purpose-made steel sections while working to demonstrate the benefits and attributes of steel windows and doors. Promotional resources for specifiers to give to clients are available on www.steelwindows.com.

PRODUCT BRIEF

» The 38th edition of the **Ilco North American Auto/Truck Key Blank Reference** is now available for free download from www.ilco.us under Literature & Support, Key Directory & References. Printed copies are available from Ilco distributors.



IN MEMORIAM

» **Robert J. Petter**, 79, of Friendship, WI, and Naples, FL, passed away in January.

» **Hyong Chu Ra, RL**, of Greenbelt, MD, has passed away. He had been an ALOA member since 1995.

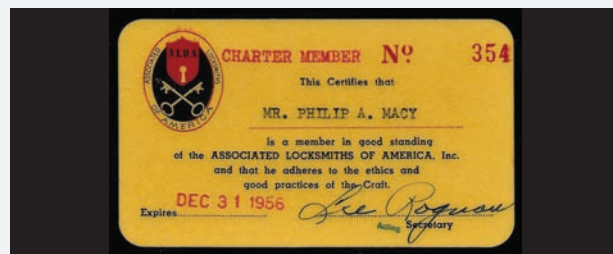
» **Gregory J. Horn, CPL**, of Lock Doc of Brevard in Palm Bay, FL, has passed away. He had been a member of ALOA since 2005.

» **In Memory of Philip A. Macy, Lifetime (Charter) Member #354**

Locksmithing was never a primary occupation for my father Phil, but a sideline to the family Gas and Service Station business, starting in 1940 when my grandfather Roy Macy purchased a key machine and a code book from a traveling salesman for \$40. Both my father and grandfather were self-taught locksmiths, gaining their knowledge throughout the years from publications such as *Keynotes* and *Locksmith Ledger*, as well as the experience they gained by "figuring it out on their own." Phil maintained an interest in locksmithing throughout his lifetime, and it was a natural tie-in with his later career in banking. Who better to protect someone's money than a lock "expert?"

For my own tie-in with ALOA, my grandmother took me on my first airplane ride to the ALOA convention in Chicago in (I believe) 1957. That first flight sparked an interest in aviation, which led to my own career as a corporate and regional airline pilot, where I was once based at the same Chicago Midway airport where I took that first flight. It seems as all of the Macy men owe something to ALOA!

- Mark Macy



Philip A. Macy was a charter member of ALOA.

ALABAMA

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Prichard

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► **Cody R. Thom**

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► **Scott Childress, CAL, CFL**

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We Need Your Help**Attention, ALOA Members:**

Help us eliminate the industry scammer problem by screening these applicants, who are scheduled for clearance as ALOA members, to ensure they meet the standards of ALOA's Code of Ethics. Protests, if any, must be made within 30 days of this *Keynotes* issue date, addressed to the ALOA membership department, signed and submitted via e-mail to membership@aloea.org or via fax to 214-819-9736. For questions, contact Kevin Wesley, membership manager, at Kevin@aloea.org or (214) 819-9733, ext. 219.

CALENDAR

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

APRIL

April 24-25

Just CarsCaribe Royale Orlando, Orlando, FL
justcars.us

April 27-May 2

SAFETECH 2020Hyatt Regency
Tulsa, Tulsa, OK
education@aloea.org or
(800) 532-2562, ext. 101**MAY**

May 11-15

KDL Hardware Supply & Trade ShowTukwila Community Center
Tukwila, WA
www.kdlhardware.com

May 18-23

Six-Day Locksmithing FundamentalsALOA Training Center, Dallas, TX
education@aloea.org or
(800) 532-2562, ext. 101**JUNE**

June 10-12

IML Security ExpoTalking Stick Resort and Casino
Scottsdale, AZ
www.imlss.com

June 18-20

Southern Lock 2020 Trade Show & Learning ExpoHilton St. Petersburg Carillon Park
St. Petersburg, FL
www.southernlock.com**JULY**

July 19-25

ALOA Convention**& Security Expo**Kansas City
Convention Center
Kansas City, MO
conventions@aloea.org or
(800) 532-2562, ext. 101**OCTOBER**

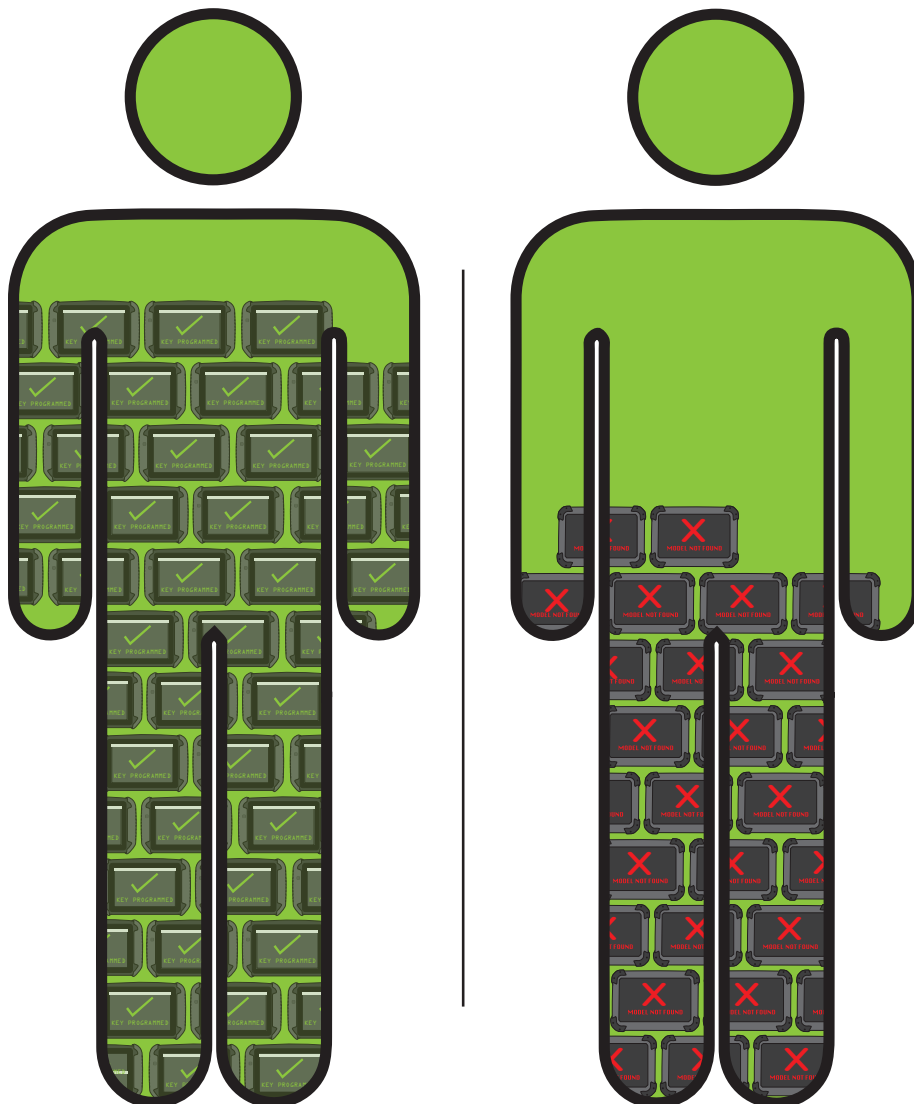
October 12-15

**Security Leaders
Business Conference**The Guest House at Graceland
Memphis, TN
www.aloea.org
conventions@aloea.org or
(800) 532-2562, ext. 101

October 28-November 1

Yankee Security ConventionMassMutual Center
Springfield, MA
www.yankeesecurity.org

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* 30% more coverage based on leading competitors published documentation in comparison to Smart Pro capability as of Jan 2020.



See You at SAFETECH!

AS YOU'RE READING THIS PAGE, I AM PREPARING TO TEACH MY BUTT off at SAFETECH in downtown Tulsa, OK. This place is great, and the local people are so friendly. If you're in Tulsa this month, you just might run into Gene Holder and his sidekick Jon Resciniti out welcoming everyone to Oklahoma and seeing if anyone is looking to relocate. He has openings! If you just opened your magazine and started reading, put it down and plan to jump in your service van. Head over for the tradeshow on Saturday, May 2, at the Hyatt Regency Tulsa.

As I mentioned last month, we are looking to move our annual forensic conference to the SAFETECH conference. I believe that our investigators fit in well with the techs of SAVTA. Not only would everyone be able to attend our advanced forensic classes, but they would also be able to attend SAVTA classes for additional experience in safes and vaults. By moving our conference to SAFETECH, it will give us a chance to move around the country. Next year, SAFETECH will be in Reno, NV, where our West Coast members will have an opportunity to attend the conference.

Recent Litigation Cases

There has been an upsurge in litigation cases coming in, but most of them only want to pay on contingency. I have flat-out told them that forensic lock investigators are paid for their service up front at a reasonable rate. I did pick up one case for an insurance company where a lock on a sliding-glass door malfunctioned and locked the occupant out on a balcony overnight, where she suffered severe hypothermia. She is suing the door and lock manufacturer. The lock has a thumb turn on the inside, and locking and unlocking is only by the thumb turn. In this case, shutting the door caused the lock to deadlock, and there was no way to unlock the door from the outside — a bummer for the installer and/or the manufacturer. Stay tuned for more info on this case.

On another case, an attorney contacted me in a wrongful death suit, where a bifold closet door fell and killed an elderly person. As you all know, closet bifold doors are usually hollow and very light, so I am intrigued to find out more about the particulars of the case once it's released for investigation. As you can see, we have no way of knowing what cases are coming our way. More details as they become available.

Become an IAIL Member

Why should you become a member of IAIL and work toward your CFL credential? IMHO, forensic locksmiths are the most-skilled locksmiths, with advanced training in investigative practices and principles. Not everyone can reach this level of achievement.

"We do not have enough trained forensic investigators to handle the demand."

We do not have enough trained forensic investigators to handle the demand. IAIL offers its members four career paths toward your CFL: automotive expert, architectural hardware expert, forensics expert or safe and vault expert. Choose wisely, grasshopper; your future depends on whether you can walk on the rice paper without tearing it!

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Developing Your Marketing Plan

Noel Flynn explains how to create a plan that will help grow your business effectively.

THIS IS THE TENTH ARTICLE IN THE “TOOLS FOR Managing Your Business” series. Here, we’ll discuss and review the foundational elements of a marketing plan. Then we’ll look at how developing each of these up front can help keep you focused when trying to grow your business successfully.

If you doubt the power of marketing, ask yourself how companies could actually sell Pet Rocks, Cabbage Patch Dolls, new jeans with lots of holes/tears and innumerable variations of snake oil. All of these had a clearly defined target and marketing foundation up front!

With so much focus these days on social media, too many business managers and owners dive right into using various internet tools without first developing a solid strategic marketing foundation. Guess what? If your marketing foundation is shaky, then what you build on it will likely be unstable or less than optimum.

The Difference Between Marketing and Sales

Before we go too far, we probably should clear up some confusion caused by interchanging two terms: marketing and sales. Smaller companies tend to only have a sales department, and this adds to the confusion. So, what’s the difference? Although there can be some overlap, without getting technical or quoting from textbooks, following are some distinctions.

Marketing is all the stuff that should be decided — and ideally developed — before you turn your salesperson loose. This includes tools to find prospects and help them find you, and also some tools that your salesperson will use to make the sale. Examples include advertising, promotions, websites, brochures, features and benefits tables, competitive advantages and other presentation materials often referred to as collateral. Certainly, this does not suggest that marketing is an upfront one-and-done event. Think of marketing as the foundation upon which you will build your business. We’ll drill down into this later.

Perhaps a more interesting way to think of marketing is using

an ice hockey analogy where marketing is equivalent to setting up the shot by passing the puck to the shooter. It’s called an assist, and it can be almost as important as the actual shot itself.

Sales includes activities where we apply the marketing foundational stuff to get the order and, ideally, develop the relationship with the customer. In our ice hockey analogy, sales would be equivalent to receiving the puck from marketing and then taking the shot and scoring the goal.

Hint: When abbreviating these two terms, it’s highly recommended to list them in the order of marketing and then sales (M&S), rather than S&M. Just to be clear and get your mind back on track, there usually aren’t 50 shades, nor any mention of a dominatrix, in either traditional sales or marketing (although I can’t be sure what behavior occurs at your company!).

Marketing 101

Although it’s been a very long time since I first studied marketing at the university level, the fundamentals have not really changed. Let’s take a quick refresher of what’s important and worth remembering in the real world. What probably matters most is the idea of the “marketing mix” that is the conceptual basis for all marketing. Back in the day, we learned that this marketing mix was essentially a series of strategic decisions that we need to make for our business. Unlike many of the things we learn in school, this actually turns out to be logical and useful for growing our business.

The Four Ps

(attributed to E. Jerome McCarthy, teacher and marketer)

If we cut through all of the crap, an easy way to think about this is to look at the four marketing mix elements (in more recent years, a few more have been added), and they all begin with the letter “P.” Here’s an abbreviated version:

- **Product:** whatever we are selling, whether actual hard product and/or service

- **Price:** self-explanatory, but includes the expanded term “pricing”
- **Place:** usually refers to distribution and fulfillment (connecting our products to customers)
- **Promotion:** clearer and has to do with such things as advertising, discounting, etc.

Rather than take an academic approach (I can already hear the yawns) to understanding this marketing mix stuff, let’s instead look at the real-world translation and application. We can do this (and perhaps even stay awake) by asking some basic questions about our business. Although these questions apply to both startups and also established businesses, it may be more instructive to drive home some of these principles in the context of a startup business.

Relevant Marketing Mix Questions

Let’s say that you have some sort of epiphany, or perhaps an apparition or, in your case, those scary voices in your head tell you that you are destined for greatness. Yes, I know; you’ve wondered why your obvious prodigy took soooooo long to be officially recognized. Cosmic forces then push you toward starting your business, and you’re on your way. Fasten your seat belt. For expediency, let’s presume that you have some experience in a service trade and decide to start Bubba’s Mo Bedda Locksmith and Security. We just know you thought of this catchy name all by yourself. Amazing!

Keep in mind that the elements discussed in this article are generic and can be applied to most service or product businesses. Now, let’s consider some relevant questions that require answers and then decisions. We’ll also place each of the questions in their respective marketing mix categories, although some can fit in more than one of the Ps.

Of course, we realize that some of your decisions, strategies and tactics developed early in the game will likely be refined or change as your business gains some traction and when you become established and entrenched. Although your astonishing talent (you’re welcome) could surely own the entire marketplace, your benevolent nature will likely compel you to leave a few crumbs for your competitors. Following are some of the real-world questions.

Product: Many of the products you will sell already exist, so this takes care of many questions.

- What services will you provide? Short-term, longer-term?
- What range of products and brands will you sell and inventory?

- What terms of service will you offer? Policies, terms and conditions, etc.?

Price: Relates to the real or perceived value of your offering — value proposition.

- What is your pricing strategy? Short and longer-term.
- How will you establish what you charge for various services and products?
- What types of discounts will you offer?
- What will your payment and credit terms be?

Place: Where you operate and how you connect your services with target customers.

- Geographically, where will you offer and provide services? Town, county, state, region?
- Will you have a fixed (store) location or be a mobile provider? Or both?
- Which market segments will you service? Commercial, industrial, residential, auto, government?

Promotion: A bit like choosing bait. Often called marketing communications, aka marcom.

- Who are you trying to reach? (potential prospects)
- What is your message? (What solutions can you provide?) Build your brand!
- How will you reach your target audience? (How will they avail of your services?)

Although we could spend lots of time developing other relevant questions, hopefully you get the point by now. As mentioned, you have to begin somewhere, but you can expect to refine the answers to these questions as your business evolves. The point is that you should begin answering questions like these as soon as possible and revisit your answers as your business progresses. Make sure future decisions are consistent with your strategies.

As in any planning process, you may find it helpful to use the trip analogy technique that requires answering some basic questions. These interrogation-type questions are often referred to as “manager’s friends” because they are open-ended yet specific enough to elicit meaningful responses when applied within a particular context. Be sure to test your decisions using these questions. These are also highly recommended when you are trying to extract information.

- What... am I doing? (taking a trip)
- Why... am I going? (vacation or need a break, etc.)

- Where... am I going? (name of place or region)
- When... am I going? (dates)
- Who... am I going with? (names)
- How... will I get there and back? (transport method(s))
- How much... will it cost? (budget)

When developing your objectives and strategies, be sure to reflect on your SWOT analysis so that you leverage your strengths, avoid exposure of your weaknesses, identify and capture opportunities and be aware of threats. We covered this in the June 2019 article. If your business will require funding, you need to be prepared so that your plan can survive scrutiny.

Come Back and See Me When You No Longer Need Me

Now you're talking to a banker about getting a startup loan for the surely-destined-to-be-famous Bubba's Mo Bedda Locksmith and Security. At this juncture, feel free to cite any relevant supporting Bible, Quran or Google prophecies or scripture passages that directly foretell of Bubba's ascendancy. OK, so maybe this infidel banker is not yet ready to hear about the prophecies! While awaiting arrival of a certified astrologer, he/she has the audacity to start asking you pointed questions about this new business. Are you prepared to answer those penetrating questions? Better yet, do you have some sort of written marketing plan or something formal to show them?

What were you thinking? Didn't you know that banks don't usually lend money for startups? Banks are notorious for refusing to provide funding when you need it most. But when you have at least a three-to-five-year successful track record, they suddenly begin showering you with fee-loaded loan offers when you may no longer need them. But you will need a banking relationship sooner or later, and what one bank is unwilling to do, a different bank may welcome. So, be persistent.

The Dream Killer

Having spent years in both the world of small business funding and also the much more sophisticated investment banking arena, I can tell you (although you probably already know this), that seeking funding for your business — especially for startups — can be an extremely exasperating experience for a business owner. However, there is no better way to protect yourself from making big mistakes than to have a qualified person or firm tell you that (wait for it), "Your baby is ugly."

I've played this dream killer role many times for small and large product-based and service companies in many industries. It's truly sad to see how often individuals fall in love

with their dreams and then wear emotional blinders that shield them from reality. As Zig Ziglar used to say, "Sounds like you're on that river in Egypt: Denial." Sure, being turned down for business funding really sucks and can be emotionally devastating at the time. This will bring back memories for readers who have taken this business-funding journey, perhaps in their early days.

But this dream-killing experience can save you from driving off the cliff in an unrealistic dream vehicle or chasing a solid dream that has not yet been properly planned. The message is that you can help yourself and your business become successful and avoid that business failure graveyard by using some of these "Tools for Managing Your Business." One of these tools is the marketing mix and the famous Four Ps. There's also a relevant expression used in the legal industry when referring to trials: "He who is best prepared wins." So, preparation is the winning formula (not to be confused with Preparation H).

Whether you are seeking business funding or not, it's best to be prepared by developing your marketing plan sooner rather than later. It's far better to make your mistakes on paper rather than after you quit your job and have to make it without a steady paycheck. It's that big transition when you step off the dock and into the boat... and perhaps burn the dock (or someone else burns it).

Marketing Plan Executive Summary

Perhaps one useful way to distill and apply all of this stuff is to hammer out a rough marketing plan for Bubba's Mo Bedda Locksmith and Security. Because of space limitations, we'll only look at what an executive summary might include. This is often featured in just a few pages at the beginning of a marketing plan and is designed to make your pitch succinctly so that, hopefully, the reader will be sufficiently interested to read the full plan. If you are looking for funding, you should also include a cover note that explains how much you are seeking, what the funds will be used for and how/why this investment opportunity makes business sense.

Marketing Plan

Bubba's Mo Bedda Locksmith and Security LLC Executive Summary

Company

Bubba's is a Florida LLC formed on January 12, 2019, by John Doe (entrepreneur extraordinaire and visionary) who is the president, secretary, and ruler for life... and 100% shareholder.

Industry (provide a brief description in terms the reader can relate to and be able to find data about)

Bubba's operates within the vast security industry that has experienced steady and significant accelerated growth, especially since the tragic 9/11 events.

Business (tell me about your business)

Bubba's is a full-service provider of solutions that include a broad range of sales, installation and service of complete new security systems on the one end, and also sale, repair, replacement and service of existing security systems and devices such as locks, keys and safes on the other end of the spectrum.

The company currently enjoys low overhead, operating as a mobile provider within the entire Tampa Bay area of Florida, including Hillsboro, Pinellas, Pasco, Hernando and Manatee counties. Longer term, Bubba's expects to open at least one traditional retail store and gradually expand its service territory throughout central Florida.

Market Segments (tell me about the positioning of your company, including niche targets)

Although Bubba's enjoys a diversified customer base, the company's focus is on commercial, industrial and government segments. This includes such vertical markets as education (from elementary through university) and medical (hospitals, surgical centers and medical offices). Because of a recent trend toward intruder shootings, places of worship have become highly interested in hardened security. This represents an opportunity for Bubba's.

The company avoids the auto segment (lockouts) but does service the residential market, with a clear preference for larger niche jobs and architectural products rather than low-margin commodity locks and keys. Bubba's does participate in the profitable transponder key niche, programming and selling new and replacement automotive keys to consumers and auto dealers.

Minority-Owned Business (or other relevant unique status, if applicable)

If Bubba's is a minority owned business, it would be appropriate to mention this status and perhaps the company's strategy to seek government bid work. Many government entities are required to set aside a portion (often 15%) of their bid work to qualified minority contractors. This has become a booming area of opportunity, especially for female-owned businesses.

Marketing Communications (Marcom)

Bubba's primary messages are:

- A full-service locksmith and security firm offering a broad range of affordable security solutions and timely service.
- A professional, qualified and trusted solution provider for your business and/or home security needs.

Bubba's target audiences:

- Industrial - education and medical vertical markets
- Commercial - small and medium businesses
- Residential - upscale homes, niche architectural products and homes of our business clients
- Places of worship interested in hardening their physical security systems

Bubba's passive marcom delivery methods:

- Word-of-mouth referrals (earned over time) from satisfied customers
- Tri-fold "take ones" and brochures distributed at various events such as home shows
- Company website - offers helpful security hints, organized by end user type
- Use of social media such as Facebook, etc.

Bubba's active marcom delivery methods:

- Trained company sales force participation at relevant industry events such as trade shows and related follow-up on leads and prospects
- Programs that encourage satisfied customers to generate very positive online reviews
- Tender of competitive bids, especially industrial and government jobs
- Targeted reach-out advertising campaigns and promotional programs
- Membership in various networking groups such as chambers of commerce, Masons, Raccoon Lodge (hey, it worked well for Ralph Kramden and Ed Norton)
- Security seminars for law enforcement
- Security audits and assessments - site surveys

Any marketing plan or executive summary would be incomplete without a financial profile that usually comprises several years (three to five) of income statements (actual and projected years). Of course, if your business is a startup, you won't have any or much actual history and, therefore, your numbers will be projections. If you are not already familiar with the term, such startup financial projections are commonly known as pro forma

Bubba's	Pro Forma - Annual Profit and Loss Summary				
	Year 1	Year 2	Year 3	Year 4	Remarks
Industrial Sales					
Commercial Sales					
Government Sales					
Other Sales					
Total Sales \$					
Industrial Sales					
Commercial Sales					
Government Sales					
Other Sales					
Cost of Sales					
COS %					
Gross Profit \$					
GM%					
Expenses:					
Rent					
Utilities					
Insurance					
Vehicle(s)					
Wages					
Benefits					
Payroll taxes					
aaaaa					
bbbb					
ccccc					
dddd					
eeee					
Total - Expenses					
Net Income					
N.I. %					

Figure 1. The financial summary provides a high-level, brief snapshot of the financial picture.

P&Ls or income statements. If you really have an uncontrollable burning desire to know, pro forma is Latin (nothing to do with Hispanics) for “as a matter of form” and is essentially an effort to model the anticipated result of a transaction or projection of future results. Let’s take a look at pro forma P&Ls for Bubba’s (See *Figure 1*). The title should indicate whether any of the columns reflect actual numbers rather than projections.

You will notice that this template’s format breaks down sales among the various primary market segments, and the corresponding cost of sales is similarly delineated. If you are unable to provide a breakdown of cost of sales by segment, just provide a consolidated cost of sales. However, somewhere in the actual plan, you should provide more details about what you expect to sell by segment and the expected gross profit/margin for each. You should also provide a breakdown of sales into categories by type of service and/or products sales. It’s usually best to have spreadsheets (and hard copies) to demonstrate that you did not pull these projections out of thin air. Hint: It’s probably best not to suggest in writing that the source of these projected numbers is those voices in your head.

Once you have established the underpinnings of your basic marketing plan, using the marketing mix and Four Ps approach, you need to begin developing specific objectives, strategies and action plans (tactics). In other words, specifically include a minimum of:

- What are you going to make happen? (Objectives)
- How are you going to make it happen? (Strategies)
- What specific steps will you take, when, by whom etc.? (Action plans/tactics)
- What resources will be required (budget, people, equipment)?
- What expectations do you anticipate, and how will these manifest themselves?

This is where the rubber meets the road and you begin to walk the talk with specific steps and lots more details. But now you can go back and lean on the previous work that you did in answering those pesky marketing mix questions. It’s as if you just met your business savvy brother-in-law, you tell him about Bubba’s and he starts peppering you with sensible questions.

Hint: Unqualified spouses and/or family members are probably the worst possible source for meaningful, objective feedback. Too often, relatives will tell you what you want to hear but not necessarily what you need to hear! Or they are well intended but not even remotely qualified.

As you flesh out your plan, revisit that foundational stuff over and over. Keep asking yourself if what you are planning to do is consistent with your marketing mix foundation. This will help provide some guardrails to keep you from drifting off the path to success.

Conclusion

Hopefully, this discussion of marketing mix and the Four Ps will be helpful in constructing a strong foundation on which you can build your business. Then develop your specific objectives, strategies, action plans, budgets, plans, advertising and promotional collateral materials — and all the other stuff needed to lay out how you are going to make Bubba’s reach its ginormous, spectacular potential.

Our next article in this series will be “Employee Performance Reviews,” where we will discuss the importance of doing such reviews in a timely manner. We’ll illustrate how to do them efficiently and properly. ☺



Noel Flynn is a degreed business management consultant with global senior leadership experience, including more than 20 years in manufacturing, wholesale distribution and consulting sectors of the security industry. Noel has been a senior executive, officer, board director and adviser to not-for-profit and for-profit companies in numerous industries worldwide. This includes being an ALOA board member since 2011, and he is also an ACE instructor, developing and teaching business management.

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Making a Key for the 2016 Hyundai Santa Fe

Learn the steps and tips for opening, removing the door cylinder and making a key. **By Robert Sieveking, RL, CAI**

THE HYUNDAI SANTA FE, PRODUCED FROM 2013 TO 2018, USES THE HY18R side-milled key system. The HY18R configuration will also be found on the Santa Fe Sport models from 2013-2019, also as the emergency key for prox-equipped Santa Fe models and on the 2016-2019 Kia Sorento. The 2020 Kia Telluride also uses this keyway. All of these vehicles use the C1001-3500 code series.

The HY18 reverse of this keyway will be found on the Accent (2012-2016), Elantra GT (2013-2016) and Veloster (2012-2016). When the vehicle is prox-equipped, the same keyway will be used on the emergency key. These vehicles used the T1001-3500 code series.

This Santa Fe is non-prox and non-transponder. This article will illustrate the opening procedure, door cylinder removal and the easiest method of creating a key. Codes were not found on any cylinder. There are three lock cylinders on this vehicle: the driver's door, the glovebox and the ignition.

If the vehicle were equipped with the optional prox (proximity) start, it would eliminate the ignition cylinder. The door and glovebox cylinders would remain and require the same service outlined in the text to create an emergency key. From the information in this article, you should be able to produce a working emergency key for any of these vehicles. Keys were made using the Clue-Card side-mill code system, an HPC 1200CM code machine and a Silca Club Jr. side-milling duplicator.

Depth and space keys are available from National Auto Lock Service Inc. under part number SD-HYN-HY18-R. A keying kit is available from ASP under the part

number A-36-102. The ASP kit contains combining wafers and springs to service all cylinders.

Getting Started

The first step in any automotive key-making assignment is to find specific information for the vehicle. The VIN will be found in the lower-left corner of the front window and on the label at the rear of the driver's doorframe. *Figure 1* shows the doorframe identification tag. From the VIN, we see that the 10th digit of the VIN is a "G." The "G" identifies this vehicle as a 2016 model. The build date of this vehicle is JUN/11/15 (June 11, 2015). Using the make (Hyundai), model (Santa Fe) and model year (2016), we can easily look up the specific key information.

Figure 2 shows the metal tag at the lower left corner of the front window. This confirms the VIN. The tenth digit is "G," confirming this to be a 2016 model vehicle.



Figure 1. The doorframe identification tag is shown.

The Key Plate

The 2016 Hyundai Santa Fe was located in the 2018 Fast Facts index. We are directed to Key Plate HY30, as you see in Figure 3. The key information (depth and space) is essentially the same as that used on the 2012-17 Accent models, except that the keyway is reversed. All non-prox models of the Santa Fe will be non-transponder for vehicles manufactured for USA distribution.

From the Fast Facts Key Plate, we find:

Code Series: C1001-3500

Keys: HY18-RP (Ilco), HY20-R (EZ), HY18R-PH (Jet)

#	Space	#	Depth
1-	.799	1-	.078
2-	.705	2-	.098
3-	.611	3-	.118
4-	.517	4-	.137
5-	.423	5-	.156
6-	.329	key is tip gauged	
7-	.235	step increment is: .0197	
8-	.141	spacing is: .094 cut-to-cut	

Tumbler Locations

Ignition: 12345678

Door: 12345678

Tnk (or Rear Hatch) -

Glove Box: ± (Cylinder optional on this model)

Key Making: Use: HPC Code Card- CLUE™ # 027

Cutter: Use: Cutter: CW-1011

Cutter/Follower: T/F-22 (small diameter side-milling Cutter)

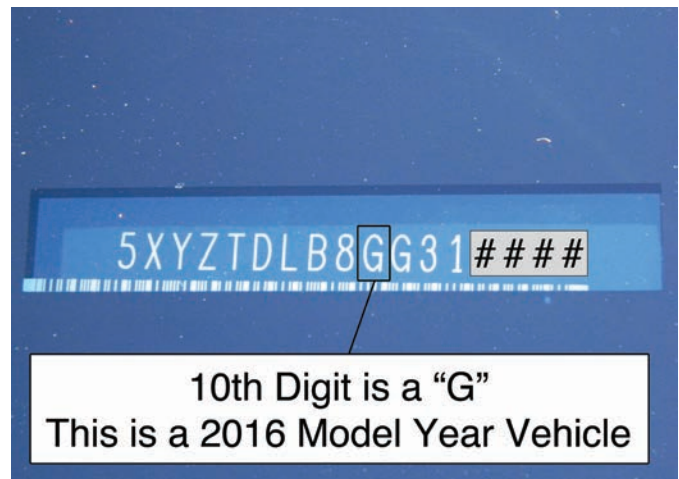


Figure 2. The metal tag at the lower left corner of the front window confirms the VIN.

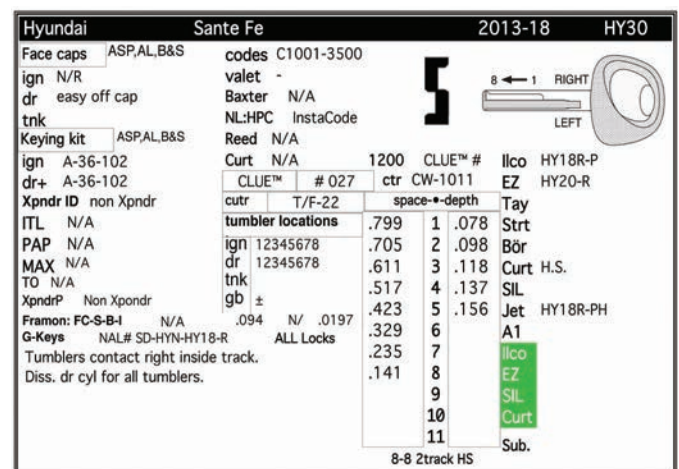


Figure 3. Key Plate HY30 is shown.

Other important key-making information is found on this Key Plate, but the above is the most important, along with the key-making suggestions in the lower-left corner of the plate. Most important is: “Diss. Dr cyl for all tumblers.” This tells us that disassembly of the door cylinder will give us all the information necessary for a complete key. There is no direction to read (sight-read) this vehicle, as it uses a stepped wafer ear configuration. The easiest cylinder to remove is the door cylinder. There is no trunk cylinder. No codes were found on any cylinder.

Cylinder Locations and Removal

Figure 4 shows the location of the door lock cylinder. A single screw in the edge of the door retains this cylinder. This is the easiest cylinder to remove, for key-making purposes.

The central locking and window controls are mounted



Figure 4. A single screw in the edge of the door retains this cylinder.



Figure 5. The central locking and window controls are mounted in the armrest of the driver's door.



Figure 6. The lock button is shown.



Figure 7. Remove the plastic cap to access the cylinder retaining screw.

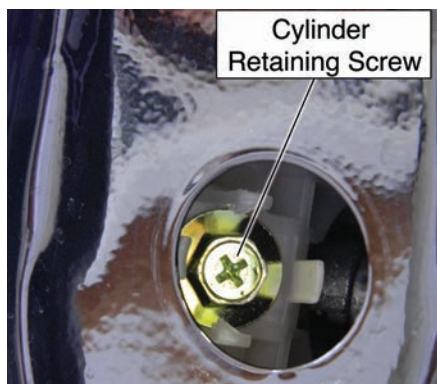


Figure 8. Rotate the screw counterclockwise to release the door lock cylinder for removal.

in the armrest of the driver's door (Figure 5). The lock control button will be disabled if the car is locked with the key-head remote. The mechanical lock button is mounted above the latch release handle. This will allow us to unlock the vehicle.

The lock button (Figure 6) is pulled toward the rear of the vehicle to unlock the door. Wedge and then use an air wedge to create an opening at the top rear corner of the door. Use a long reach tool through the opening to manipulate the rocker-style button rearward. Use care wedging the door and pad the opening to prevent damage to the vehicle. A rubber tip on the opening tool will give a good grip and prevent damage to the painted trim.

A plastic cap in the edge of the door at the level of the door cylinder (Figure 7) conceals the cylinder retaining screw. Remove the plastic cap to access the cylinder retaining screw.

The cylinder retaining screw (Figure 8) retains the door lock cylinder. Plastic ears retain the Phillips head. Rotate the screw counterclockwise to release the door lock cylinder for removal. Do not remove the retaining screw from the door.

With the screw backed out, the cylinder can easily be removed (Figure 9). Remove the door cylinder.



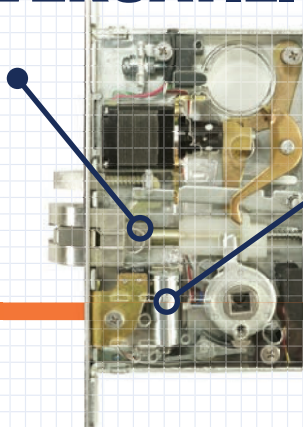
Figure 9. With the screw backed out, the cylinder can easily be removed.



Figure 10. This image shows location of the retaining screw in the handle housing. No other trim needs to be removed.

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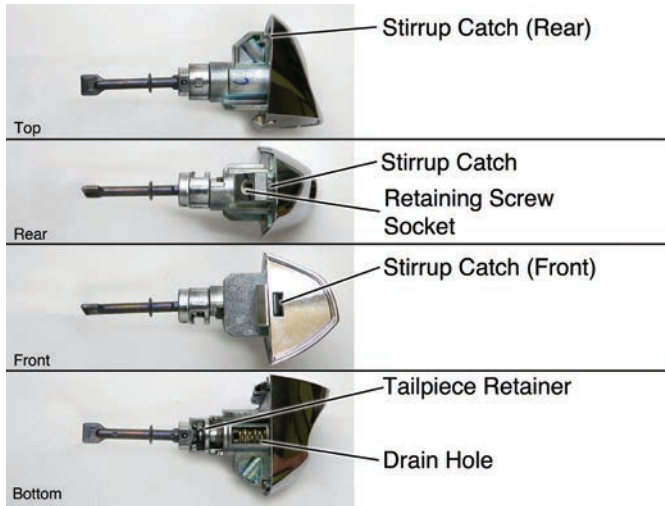


Figure 11. This photo details the door cylinder.

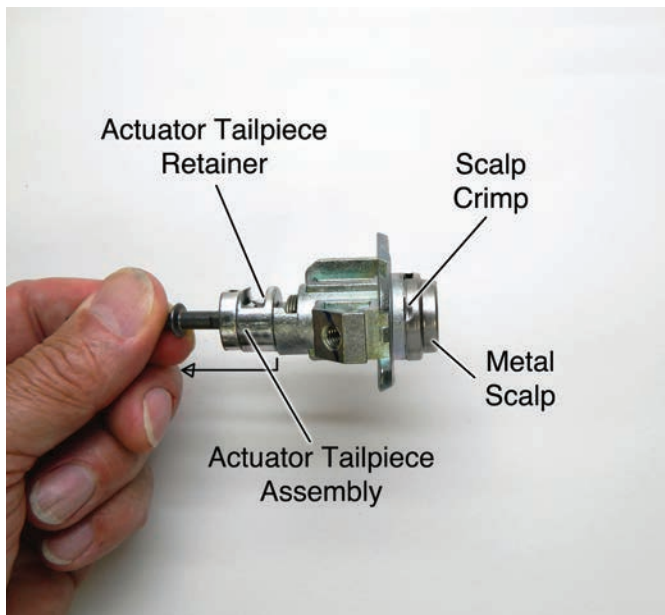


Figure 13. This image provides another view of the door cylinder.

Figure 10 shows location of the retaining screw in the handle housing. No other trim needs to be removed. Figure 11 details the door cylinder. The retaining screw socket is shown at the rear of the cylinder. A drain hole in the bottom of the cylinder reveals six of the eight tumblers. The plastic trim scalp is retained by stirrup catches at the front and rear of the cylinder.

The stirrup catch at the rear of the plastic trim scalp is called out in Figure 12. Use a pointed pick tool to flex the rear catch enough to release the scalp for removal. Gently lift the catch and remove the scalp from the cylinder. Use care to prevent breaking the catch.



Figure 12. The stirrup catch at the rear of the plastic trim scalp is called out.

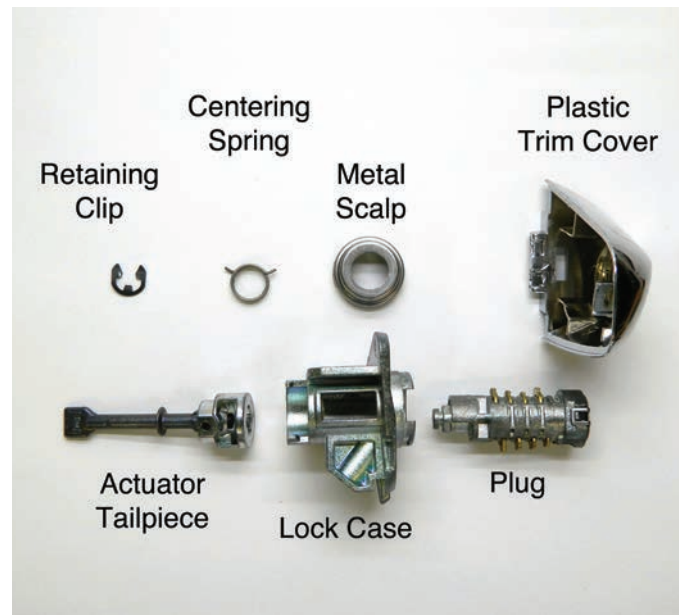


Figure 14. An exploded view of the door cylinder is shown.

The door cylinder is detailed in Figure 13. A single retaining clip retains the actuator tailpiece assembly. Remove the retaining clip to free the tailpiece assembly for removal. The plug centering spring can then be removed. The metal scalp is retained by two crimps in the edge of the cap. To remove the scalp, hold the cylinder with the cap upward and bring the cylinder down sharply on a padded surface. The plug will be forced upward to dislodge the metal scalp. Place your finger over the top of the plug so that it does not fly out of the cylinder as the cap is pushed upward. Also, use care in removing the plug, as the wafers are not retained in the plug. We need them in place so we can decode them and discover the unknown key biting.

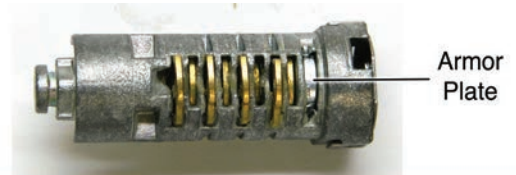
"All non-prox models of the Santa Fe will be non-transponder for vehicles manufactured for USA distribution."

Figure 14 shows an exploded view of the door cylinder. The centering spring fits over the rear of the plug and engages the lock case to position the plug in the key-pull position. The retaining clip fixes the actuator tailpiece to the rear of the lock plug. The metal scalp retains the plug and acts as a weather shield for the cylinder. The plastic trim cover latches to the front of the cylinder.

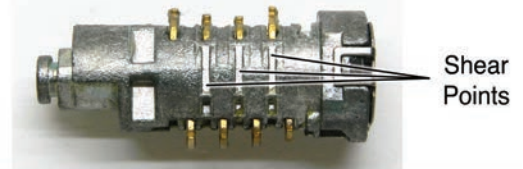
Figure 15 details the door lock plug. There are eight wafers arranged in a double-sided configuration. Four wafers engage one side of the reversible key, and four wafers engage the opposite side.

At the front of the plug is steel armor plate, or drill barrier. The plug also has three shear points molded into the plug. If

Top



Side



Bottom

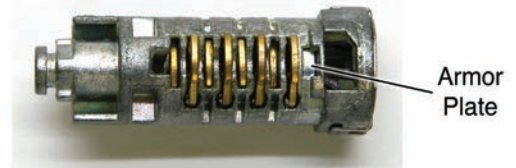


Figure 15. The door lock plug is detailed.

someone tries to force the lock with a screwdriver, the plug is designed to break at one of these weak points, preventing a forced-entry attack. The ignition plug uses the same forced rotation safeguard. This is called a frangible plug.

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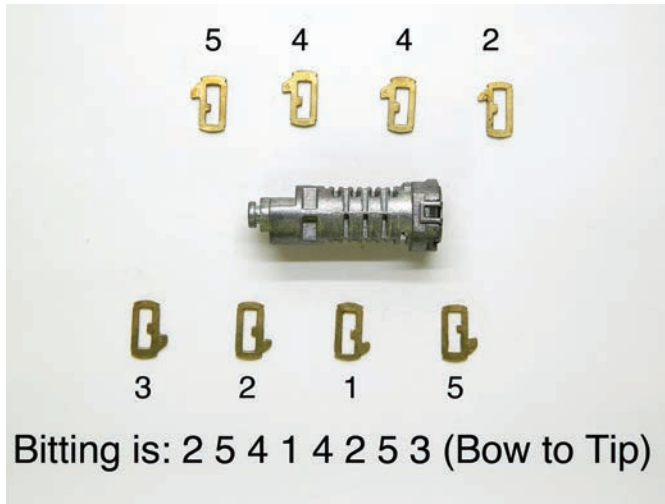


Figure 16. This image provides an exploded detail of the plug.



Figure 18. The Hyundai four-button flip-blade remote key is shown.

Plug and Wafer Details

An exploded detail of the plug is shown in *Figure 16*. The combining wafers have been removed to discover the key bitting. All wafers are stamped with their bitting depth. From bow to tip, the bitting is read: 2 5 4 1 4 2 5 3. This is the bitting of the unknown key. Apply a dab of assembly grease to each of the spring sockets to prevent the tumbler springs from falling out as the plug is reassembled.

Figure 17 details the configuration of the combining wafers. The wafer ear, or spring ear, sits over the tumbler spring to propel the wafer out of the plug. The bitting is the only part of the wafer that touches the key blade. The height of the bitting determines the key bitting depth required to solve the wafer at the shear line. The bitting tab supports the bitting. The keyway is open to allow the key to travel to the rear of the plug

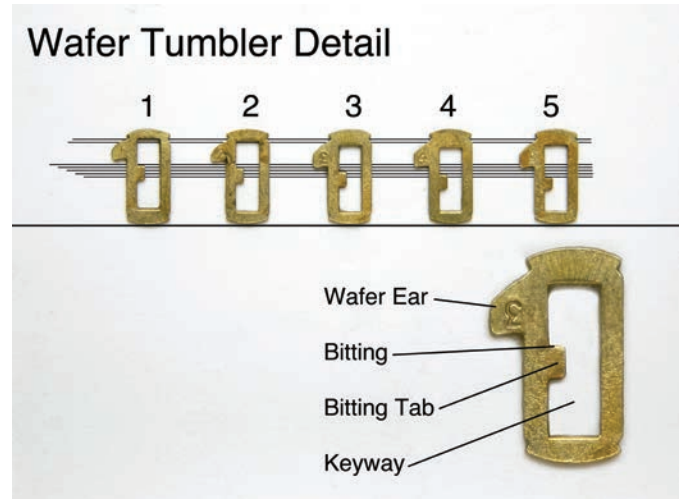


Figure 17. The configuration of the combining wafers is shown.

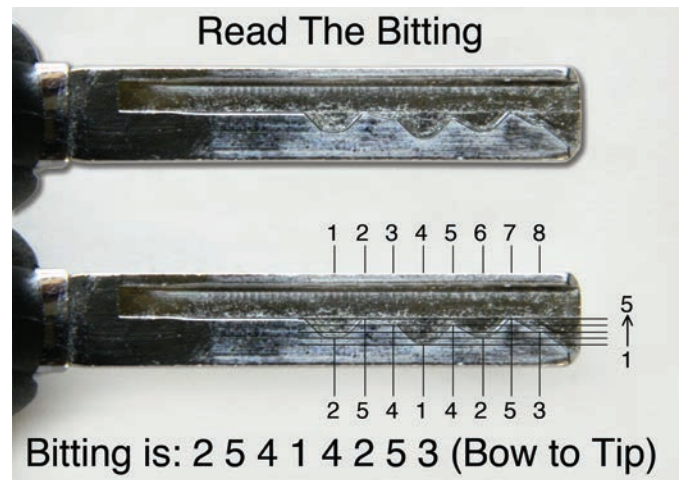


Figure 19. There are eight tumbler positions, numbered from bow to tip.

keyway. These wafers could be sight read in the keyway, but the differences in the height of the wafer ear of the #1 and #2 depth wafers will make reading more difficult. Sight reading this cylinder is possible but not recommended. Disassemble to read the bitting on each wafer.

If you will be recombining or replacing the wafers in these cylinders, the ASP 2014 Hyundai/Kia Wafer Kit is available from ASP. It contains wafers and springs to service all current Hyundai and Kia cylinders. Tumblers shown here are from the P-36-131 to P-36-135 series.

The Hyundai four-button flip-blade remote key is shown in *Figure 18*. This detail shows FCC ID number to be TQ8-RKE-3F04. The remote will open the rear hatch, lock and unlock the vehicle and has an emergency or panic button that will sound the horn.

Figure 19 shows a detail of the key bitting. There are eight tumbler positions, numbered from bow to tip. There are five cut depths. A #1 depth is the deepest cut in the key, and a #5 depth is the shallowest. Study the key blade at the bottom to see how the bitting is read, then read the bitting of the key shown at the top of the photo. Both sides of this 2-track key are identical. There is no shoulder on this key blade, as the key is tip gauged.

Originating a Key

There are a number of ways to originate this key from the bitting. We could use an automatic electronic code machine, depth and space keys or the Clue-Card System. The Clue-Card System is available from Sieveking Products Co. Depth and space keys are available from National Auto Lock Service Inc., part #: SD-HYN-HY18-R.

Clue-Card #027 is indicated in the Fast Facts key plate for this Hyundai key configuration. Figure 20 shows the HPC 1200CM Clue-Card. All information necessary to create a finished code-cut key is contained on the card. This card was revised 3-12-15 to correct the #5 depth dimension. Important information to be gleaned from the card is as follows:

Hyundai Accent 2t (two track key)
Code Series: C1001-3500
Web Dimension: .030"
MACS: 3

Cutting the Pattern Key

1200CM Vise Jaw: A
1200CM Cutter: CW1011
Align: Tip Gauged (use long tip stop)
Pattern Key: 1063E (ILCO)
 (standard S&G Renter Key)

Cutting the Working Key

Working Blank: HY18-RP (ILCO)
Cutter/Follower: T/F-22
 (small diameter cutter / follower)

Pattern on Right Side, Use Vise Jaw A (Cuts Right Track)
Tumblers contact the inside Right track.

Top Depth & Space Block = shows Pattern Key dimensions.

Bottom Depth & Space Block = shows Finished Key dimensions.



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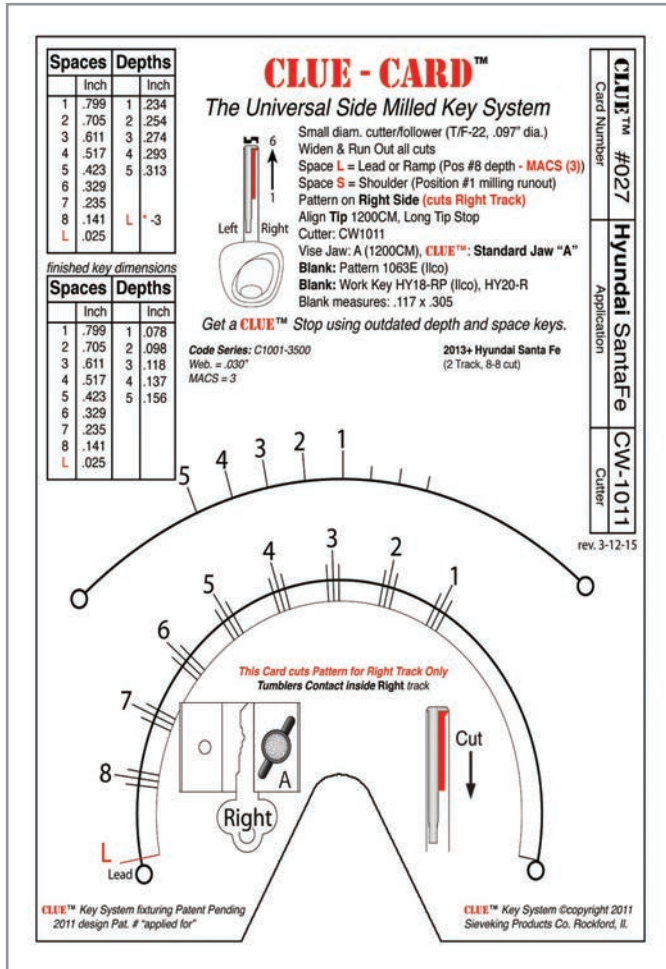


Figure 20. This image shows the HPC 1200CM Clue-Card.

Ignition Cylinder, Solved by Code-Cut Key

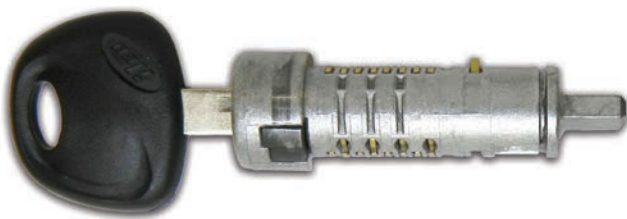


Figure 21. This is a perfectly made code-cut key.

The pattern key will be mounted using CLUE fixture Vise Jaw A, as indicated below the spacing dial markings of the card. The direction of cut is from tip to bow, as pictured at the right side of the spacing dial markings. Tumblers contact the inside right track of the key blade.

Using the above information and the indicated Clue-Card,

“Sight reading this cylinder is possible but not recommended.”

a pattern key was made to the bitting pattern defined by the wafers of the cylinder. The pattern key was mounted in the Clue fixture and tip gauged. The fixture and blank HY18-RP (Ilco) key were mounted in a side-milling duplicator. Attention was required to correctly calibrate the duplicator for the correct web dimension, and the track was duplicated onto both sides of the blank key to complete the process. The key was cut from tip to bow, as indicated on the card.

The geometry of the cuts in our code-cut key perfectly matches the original key in every aspect. The pattern key was cut over a standard off-the-hook 1063E (ILCO) safe deposit box key. This is the S&G renter-side key blank, which is probably the most common safe deposit blank in current manufacture.

The code-cut key in *Figure 21* solves the ignition cylinder plug. This detail shows the fruit of our labor. This is a perfectly made code-cut key. The key was tested in the door and glove-box cylinders, and it operated all cylinders without a catch or bind. The door cylinder is by far the easiest cylinder to remove for a first key.

An active retainer at the bottom of the ignition housing retains the ignition cylinder. Rotate the ignition to the on/run position to depress the retainer and remove the ignition.

This vehicle was a pleasure to service and should pose no special challenges for the professional locksmith. ☺



Robert Sieveking is an RL and ACE instructor, but he prefers the very simple title “locksmith.” Formerly senior technical writer, technical editor and contributing editor of *The National Locksmith*, Robert has authored many instructional books in the locksmith industry.

He is the author of *Fast Facts*, the encyclopedic reference to auto and motorcycle key making. *Fast Facts* was named the Best New Product in Print by ALOA in 1998. He began locksmithing in 1974 and continues to operate a full-time licensed professional locksmith business in Rockford, IL. He has invented many tools for the locksmith trade and continues to manufacture tools and books under the trade name Sieveking Products Company. You can reach him at bob@sievekingprodco.com or (815) 985-5663.

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DECIPHERING A SENTRY

Learn how to decode barcodes and use rare earth magnets to open Sentry safes. **By Matthew Holley, CPL**

FOR MANY LOCKSMITHS, AND EVEN THE PUBLIC, IT IS KNOWN THAT A large rare earth magnet can surreptitiously open various models of electronic Sentry Safes. Yes, I said the public; personally, I've seen a number of videos on YouTube showing this trick. For those who aren't aware of it, I will describe the magnet trick.

However, the primary reason for writing this article will be to describe how quickly and easily the master combination can be obtained. It is even faster than calling Sentry's technical department for the combo. Plus, if there is a way to obtain the combo without paying Sentry, I would prefer to save money for both the customer and myself.

Surreptitious Methods

One of the five most common brands of safes I encounter is Sentry. These safes are by no means tough to "crack," yet they are very abundant. Most anyone can afford them, and they are sold at many big-box stores. Although they are inexpensive units, I hate having to throw away a perfectly good firebox if the customer has

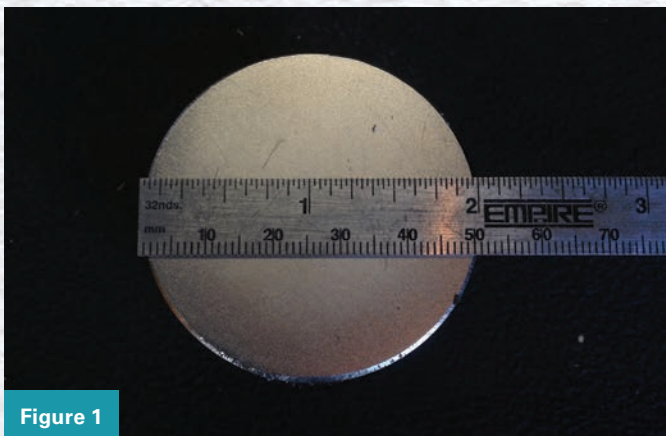


Figure 1

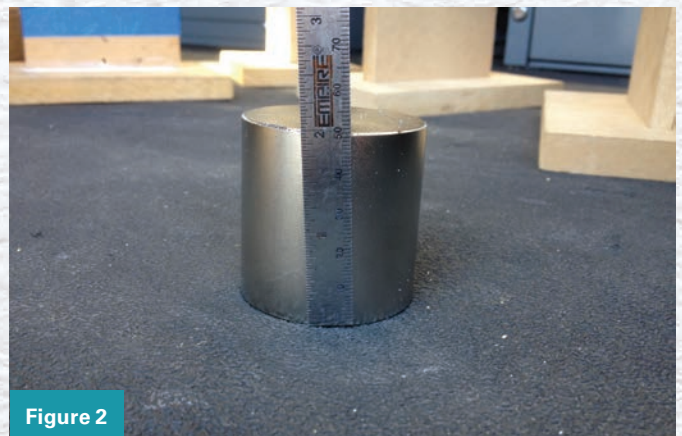


Figure 2

Figures 1 and 2. These are 400-pound pull force magnets.

**"RARE EARTH
MAGNETS ARE
EXTREMELY
DANGEROUS! THEY
CAN CAUSE SERIOUS
HARM TO YOU AND
RUIN ELECTRONICS,
CELL PHONES,
CREDIT CARDS,
PACE MAKERS, ETC."**

simply forgotten the combo. Plus, I get a thrill from being able to open the safe by surreptitious methods (not leaving any indication or damage).

Before describing how to open Sentry safes with a magnet, it is important to point out some scenarios when it won't work. If the secondary key lock is engaged, the rare earth magnet will not open the safe. It will be necessary to pick the lock first. Also, certain malfunctions might render this method ineffective. Such issues could be that the solenoid is jammed or broken, or something in the boltwork has malfunctioned.

For these scenarios, drilling is likely the only course of action. I recommend the customer replace the safes once drilled, as their primary purpose is fire protection. Once drilled, the fire protection has been compromised. I understand that there are some products and methods available for repairing drilled fire safes.

Rare Earth Magnets

Moving on to the opening procedure. It will be necessary to locate a very powerful neodymium (rare earth magnet). Personally, I have experimented with 400-pound pull force magnets (2 inches by 2 inches)



Figure 3



Figure 4

Figures 3 and 4. The magnets seen here have 600+ pounds of pull force.



Figure 5



Figure 6

Figures 5 and 6. Putting the magnet in a leather glove protects paint on safes and helps remove it from metal objects.

(see Figures 1 and 2) and found they do not have enough power to draw back the solenoid. A 600-pound pull force (1.5 inches by 3 inches) (Figures 3 and 4) or greater magnet does the trick.

Before attempting to use the 600-pound-plus rare earth magnet, I advise putting it in a leather glove, as seen in Figures 5 and 6, for two reasons. One, it protects the customer's safe from getting scratched up. Second, it offers a fighting chance to pull it off a metal sur-

face on which it would rather become a permanent addition. I've found a towel or a sock is not durable enough for the strength of magnets being used.

***DISCLAIMER *** Rare earth magnets are extremely dangerous! They can cause serious harm to you and ruin electronics, cell phones, credit cards, pace makers, etc.

Being overly cautious of the powerful rare earth magnets, I experimented with various mag locks to see if the same results could be achieved. I used



Figure 7. This brand-new 1,500 lb. electromagnetic lock couldn't open safes like a 600 lb. rare earth magnet.



Figure 8. Store the magnet in a durable plastic case.



Figure 9. Despite the leather glove and plastic case, the magnet is strong enough to stick to metal surfaces.



Figure 10. The magnet holds itself to the safe door directly over the solenoid, which is directly to the right of the number three button on the keypad.



Figure 11



Figure 12

Figures 11 and 12. This is the newest model of Sentry Safe the author has encountered. Take note of the differences in keypad style, secondary lock, etc. The solenoid location is approximately 3 inches below the handle.

mag locks ranging from small up to a brand-new 1,500-pound mag lock (Figure 7). All proved fruitless. I would love for someone to discover a method using an electromagnetic to open Sentry Safes instead of rare earth magnets. The strength

of rare earth magnets in this article is dangerous, and despite the leather glove and black case I use, it still sticks to everything (Figures 8 and 9).

This method works by first applying a large magnet to the front of the safe.

Different generations of safes have different locations where the magnet will be placed. The most common location I have found is directly to the right of the number three button seen in Figure 10. The newest model I have encountered can be seen in Figures 11 and 12. This solenoid is mounted approximately 3 inches below the center of the handle. (See the solenoid mounting location in Figures 13 and 14.) A third location I've seen in reference material — never in person — is in the upper-left-hand corner of the door.

If unsure of the solenoid location, simply slide the magnet slowly around the front of the safe while jiggling the handle in the opening direction until the unit opens. Applying pressure to the handle in the opening direction first and then moving the magnet will prove ineffective. Doing so will bind the solenoid due to the groove in the white plastic tip of the solenoid (Figure 15). Once the magnet is applied, it will hold itself to the door (Figure 10), and if directly over the solenoid, the handle will turn to open — the same as a valid combination.

After the magnet is removed and the handle is returned to the locked position, the solenoid will spring back to secure the safe. No damage done to the safe.

Barcode Tricks

Before I go in depth into this next method, I would like to say that the

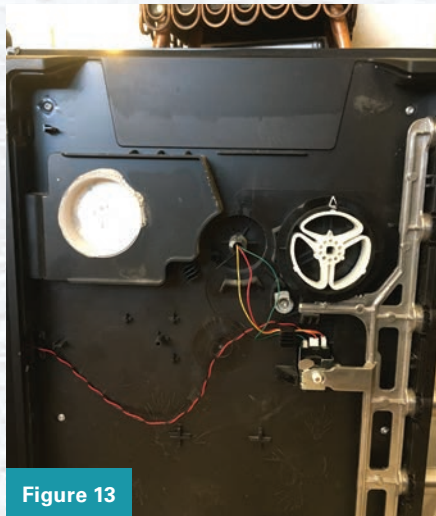


Figure 13



Figure 14



Figure 15. The white plastic tip of the solenoid is designed to bind when pressure is applied to the handle.

information was not discovered by me. In fact, I learned about it from several security professionals talking on ClearStar. They also mentioned that, on older Sentry electronic safes, the barcode sticker can be found on the outside of the safe. Thus, using a magnet is not required.

Once the safe is open, remove the back panel to find the solenoid. Removing the back panel on older model safes can sometimes be a process that takes longer than opening and recovering the combo. On newer safes, it's so easy to remove the back panel that I've had customers ask me if it would be ok to use the dead space in the door for extra storage. I inform them that it is ill advised, as it would jam the boltwork.

When the solenoid is located, it will likely be necessary to remove it for a full view of the barcode sticker (Figure 16). This sticker, when decoded, is the permanent combination imprinted in the non-volatile memory. The combo is the same one Sentry would provide when referenced the serial number on the front of the safe. Should that permanent combination fall into the wrong hands, it would be necessary to replace the solenoid.



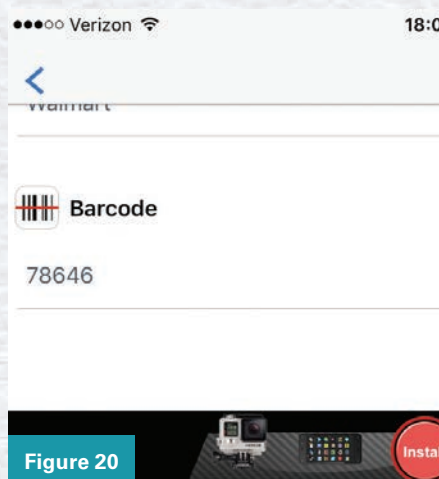
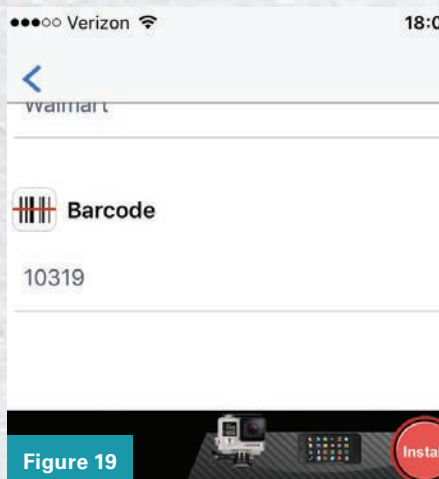
Figure 16. A close-up shows the barcode sticker on the solenoid.



Figure 17. This is a close-up view of the first solenoid. The code is 10319.



Figure 18. For the second solenoid, the code is 78646. (There are pen marks at bottom of the barcode from the author counting groups of five.)



Figures 19 and 20. Here are the barcode scanning app results from solenoid #1 and solenoid #2.

REFERENCE CHART	
Thin lines = 0 Thick lines = 1	
00110=0	
10001=1	
01001=2	
11000=3	
00101=4	
10100=5	
01100=6	
00011=7	
10010=8	
01010=9	

EXAMPLE #1	
Solenoid #1 00110-10001-00110-	
11000-10001-01010-00110	
Solenoid #1 00110-10001-00110-	
11000-10001-01010-00110	
Solenoid #1 = 1-0-3-1-9 => 10319	
EXAMPLE #2	
Solenoid #2 00110-00011-10010-	
01100-00101-01100-00110	
Solenoid #2 00110-00011-10010-	
01100-00101-01100-00110	
Solenoid #2 = 7-8-6-4-6 => 78646	

There are three ways I'm aware of for deciphering the barcode. One is using a smartphone equipped with a barcode scanning app. There are many free barcode and QR scanning apps available for both Android and Apple smartphones. Download one and test it out on *Figures 17 and 18* printed in the magazine (yes, you can start practicing right now while reading this). Simply open the app, scan the barcode and record the five-digit code displayed. *Figures 19 and 20*, respectively, show the results of scanning the barcodes from solenoids one and two. The second

method is calling Sentry with the safe serial number, so I won't bother covering it in this article. The third method is to decode manually. I like having all three options available.

Manual Decoding

To decode the barcode manually, a reference chart and scratch paper will be needed. A magnifying glass is optional. The first step is to write down the thin lines as zeros and the thick lines as ones; this is referred to as binary. Next, separate every five numbers into a group. There

will be seven groups. Ignore the first and last group of numbers as seen in the two examples. Next, match each group of five numbers to the corresponding group on the reference chart. For example 00101 equates to the number four. This will result in the combo. I have provided two examples in this magazine so you can practice your skills before doing this in front of a customer.

At this point, refer to the instruction manual for how to set user combinations for the safe. If the customer intends to give the combination to employees or family members, advise them NOT to give out the permanent combo, as it cannot be changed.

With the right tools and minimal practice, this method can be started and completed in several minutes. For some folks, it might take longer to write the invoice than it does to do the actual work. Plus saving money for yourself and the customer is viewed by most as a good thing. The security professional doesn't need to incur added costs of paying Sentry for a code each time, and the customer doesn't need to purchase a new safe because of a forgotten combination. Granted there is the cost of purchasing the magnet, but it is a one-time cost that will pay for itself after opening one or two safes, depending on your pricing. ☺



Matthew L. Holley, CPL, is an ambitious locksmith whose background spans all areas of locksmithing including automotive, institutional and military.

He is currently the vice president of the San Diego Locksmith Association with affiliations to ALOA. In 2015, Matthew received the "Outstanding Person of the Year" award from that organization. He can be reached at Matthew.safe.cracker@gmail.com for questions or comments.



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Figure 1



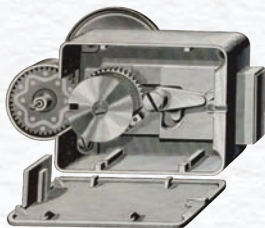
Figure 2

Figures 1 and 2. Here, we see the double-door entrance with one pressure system handle broken.

A Jewel in a Plain Wrapper

A nondescript bank vault is opened after 75 years, revealing stunning workmanship.

By Richard Vigue



A LOCAL COLLEGE WAS transforming a four-story downtown building into new retail spaces, and the general contractor called me to open the safe on the first floor. When I arrived, the safe turned out to be a bank vault!

Manipulation Attempts

Figures 1 and 2 show the double-door entrance with one pressure system handle broken. Listening carefully with my amplifier and headphones, I proceeded to locate the contact points and attempted a wheel count. It ended up being a noisy gear drive lock, and it would not give out any information.

I talked with the owner, and the cost to get it open was very high, so he allowed one of the better manipulators in our area to give it a try. Dana Messer of Bodowinham had opened many, but this one got the better of him after working on it two Saturdays. After one day, he thought he had two of the numbers, but on the second day, he did not come up with anything else. After we got it open, we would find that his two numbers were right on, and there was a problem with the top lock.

In the interim, I checked all my sources then started by examining the dial (Figure 3). Notice the opening index has a circle-type marking and also, at about seven o'clock, is a mark on the dial ring referred to as a LOBC (locked on by combination) index. Dialing the combination to, this index allows you to remove the back cover. By this time, I knew it was a 1900 Remington Sherman door with a gear drive hand change lock. Looking through my database, the best guess was a Yale 025-½ lock. Its larger brother, the 035-½ lock, would have a larger diameter dial most of the time.

Bringing in Reinforcements

I talked to the owner again and checked with the best in the industry for pricing to drill open the vault. We opted for David Hovey of Connecticut Lock and Safe Co. from Tolland, CT, and an appointment was made to open it. When he showed up (Figure 4), David spent about half an hour taking pictures and checking his database. He agreed with me as to the model of lock.

We went on that assumption and would regroup if it turned out to be wrong. He located his drill point with an Ed Willis drawing of the Yale 025-½ lock (Figure 5 courtesy of MBA USA.)

After removing the dial, his plan was to drill through the bottom right



Figure 3. The author examined the dial. Notice the opening index has a circle-type marking and a mark on the dial ring referred to as a LOBC (locked on by combination) index.



Figure 4. David Hovey of Connecticut Lock and Safe Co. was called in.

YALE 025 ½

CASE : 6" X 3 3/16" X 2". CAST BRONZE.
WHEELS : 4, 1 7/8" DIA. BRASS, MESH CHANGE.
DRIVER : FRONT, 1 57/64" DIA. DOUBLE GEARED.
LEVER : ROTARY, GEARED. D/I 79.
SPINDLE : 5/16" X 40 (79).
DIAL & TO WHEEL & = 1 15/16".
LOBC : 45 NUMBERS RIGHT OF INDEX.

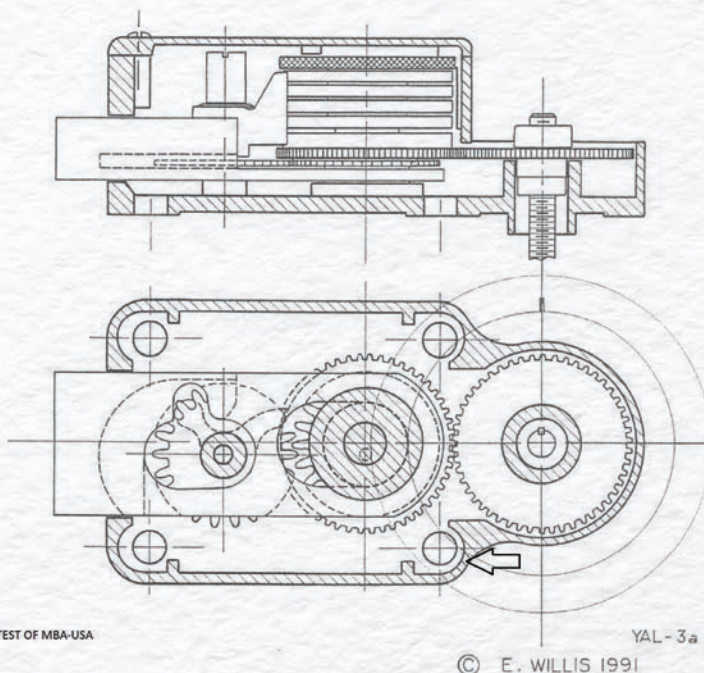


Figure 5. The drill point was located with an Ed Willis drawing of the Yale 025-1/2 lock, courtesy of MBA USA.



Figure 6. After removing the dial, you can see that it was black when installed and later painted that drab color.



Figure 7. A 1/4" StrongArm drill bit proceeded fairly well.



Figure 8



Figure 9

Figures 8 and 9. Finishing the hole with a 3/16" cobalt bit and using the borescope to view the wheels, David dialed and transferred the combination, but it would not open.

mounting screw. You can see from *Figure 6* that it was black when installed and painted that drab color. The first 1/4" penetration was drilled with a cobalt drill bit, and it came to a complete stop at this point.

Next up, a 1/4" StrongArm bit, and it proceeded fairly well (*Figure 7*). After about one hour of drill time and several bits later, we could see the flathead screw as David was almost through. Finishing the hole with a 3/16" cobalt bit and using the borescope to view the wheels (*Figures 8 and 9*),

he dialed and transferred the combination, and it would not open. We worked on it for about an hour, adding and subtracting numbers. Mike (a friend David brought along for the long ride) suggested trying the bottom lock, and the door opened the first time. Later, we would find that the last wheel of the top lock dragged just enough to throw it off drop in.

I have added four trophy shots (*Figures 10-13*). You can see it is a little off, but that was intentional, as Dave wanted to be high enough to see the wheels.

Inner Beauty

Now with the door open (*Figure 14*), we find a hidden jewel in workmanship. This was manufactured by craftsmen who took a great deal of pride in their trade. History shows the last time it was opened was in 1942 — 75 years ago. It's amazing to see how, after all this time of being sealed shut, the interior condition was so well preserved compared to its exterior. It was truly a jewel in a plain wrapper. It was a little stiff, but at 77, I can relate to that.

Figure 15 shows the Yale 025-1/2 with

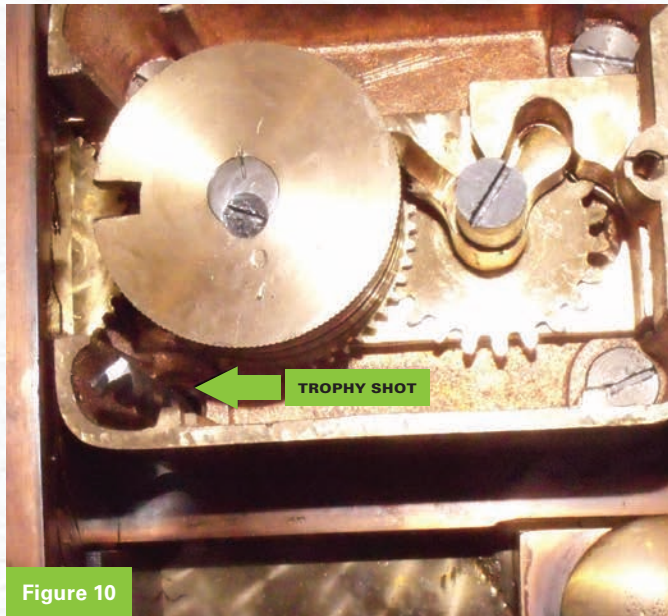


Figure 10

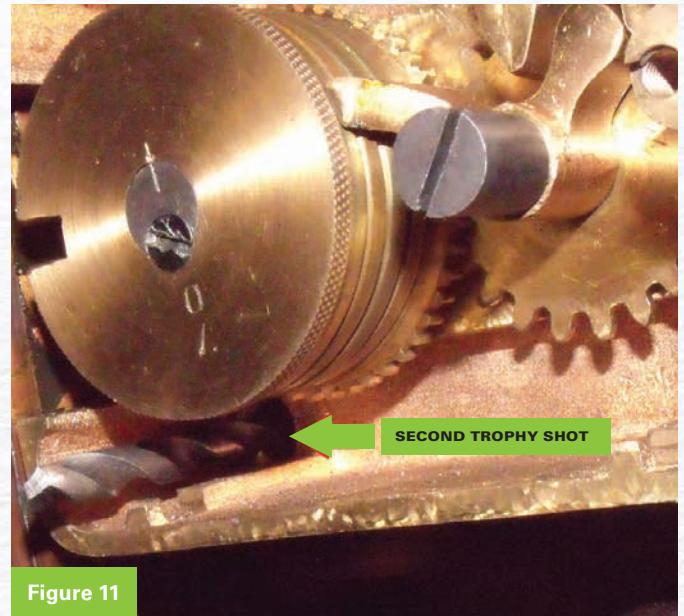


Figure 11



Figure 12

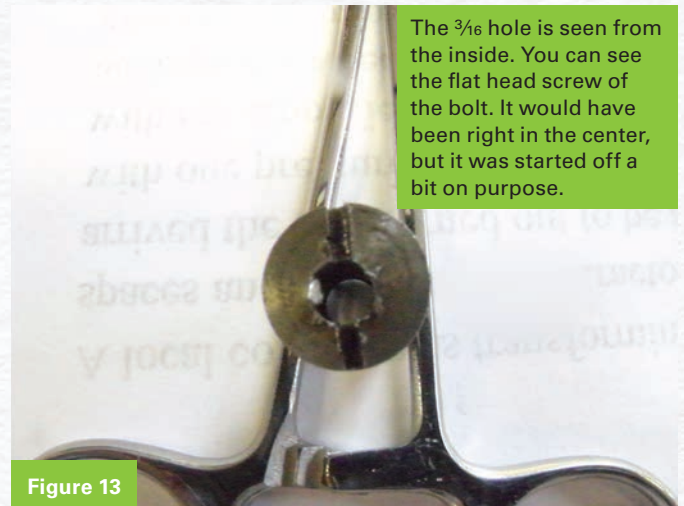


Figure 13

Figures 10-13. This job was worthy of some trophy shots.



Figure 14. With the door open, we found a hidden jewel.



Figure 15. The Yale 025-1/2 with LOBC is shown.



Figure 16. Here, we see the thickness of the outer door.



Figure 17. The vault is shown in all of its splendor.

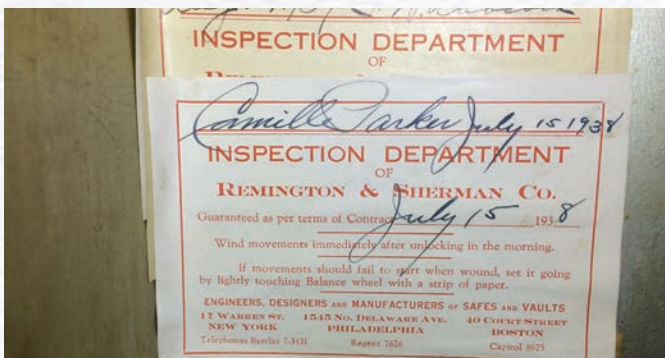


Figure 18. This indicates that it was serviced last time by Remington Sherman. You also can see that the sales office was in New York, service was in Boston and manufacturing was done in Philadelphia.

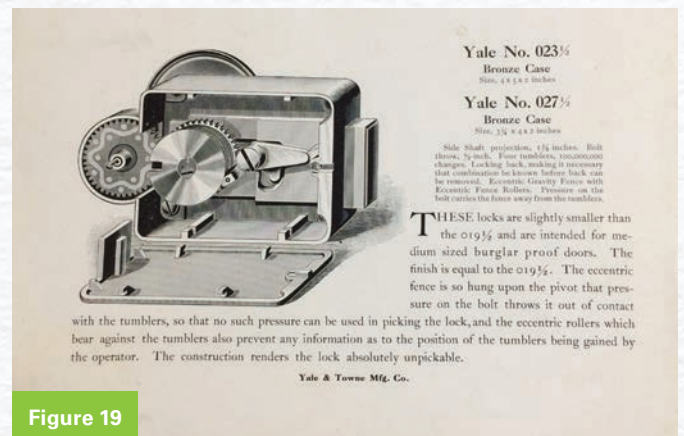


Figure 19

Figures 19 and 20. This Yale 023-1/2 vault lock is large and unique.



Figure 20



Figure 21. Note the lever's eccentric rollers.



Figure 22

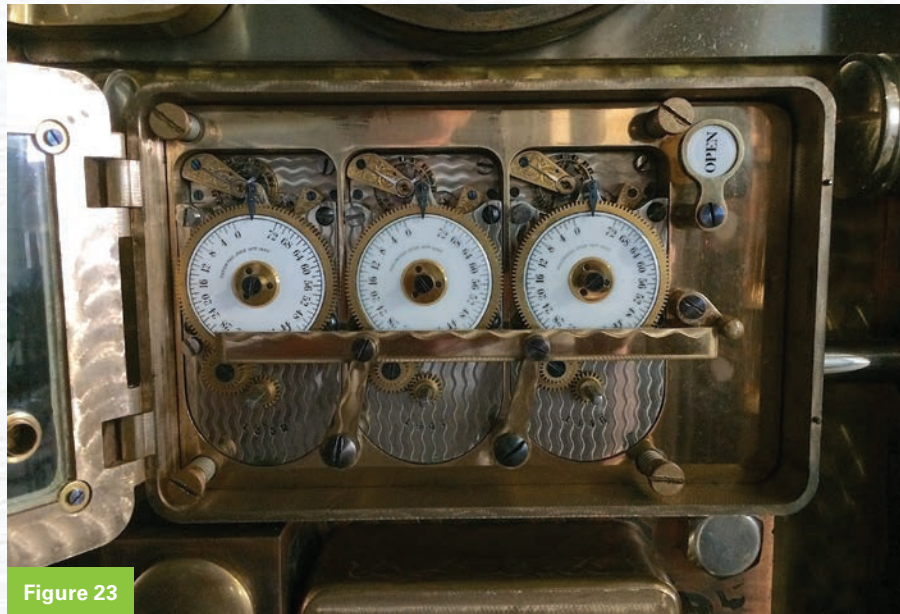


Figure 23

Figures 22 and 23. The time lock and nerve center for this door are shown.



Figure 24. The gate is quite ornate.



Figure 25. The Rim Latch lock with bell alerts you if someone is entering.

LOBC. *Figure 16* shows the thickness of outer door, and *Figure 17* shows it all in its splendor. *Figure 18* shows last time it was serviced by Remington Sherman. You also can see that the sales office was in New York, service was in Boston and manufacturing was done in Philadelphia.

Now for the inner door, which Dave identified as a triple X. We were fortunate that it was not locked, as it

was more difficult to open and had a pair of very rare locks. Dave said this was only the second time he had seen these, and the other was in the Lock Museum of America in Connecticut. *Figures 19 and 20* show this very large and unique Yale 023-½ vault lock. Note the lever's eccentric rollers in *Figure 21*; these were designed to hinder any manipulation attempt as contact points will vary every time you rotate the dial. The time lock

and nerve center for this door are shown in *Figures 22 and 23*. Strange, as it seems the stronger inner door and lighter outer doors were installed in unconventional positions. I have many different views, but I am showing just a few of them.

Now we look at the day gate and vault interior. The ornate gate is shown in *Figure 24*, and the Rim Latch lock with bell that alerts you if someone is entering is shown in *Figure 25*. The gate can be left



Figure 26. The self-closing hinge is clever.

fully open, or if a pin is installed, it becomes a self-closing door. *Figure 26* shows the clever self-closing hinge.

The final component is the holdup protector, installed as an after-market device by Diebold. If the tellers are forced into the vault, this device will stop the door from fully closing and will not allow anyone to open it unless the trapped individuals turn a knob on the device. This prevents suffocation, as the vault does not have any ventilation holes. *Figures 27 and 28* show this device at work. It can be locked so this feature is not active.

A Look at Construction

The doors were both made from alternate layers of steel plate and something proprietary call Franklinite. This made penetration difficult but not impossible



Figure 27



Figure 28

Figures 27 and 28. If the tellers are forced into the vault, this device will stop the door from fully closing and will not allow anyone to open it unless the trapped individuals turn a knob on the device. This prevents suffocation, as the vault does not have any ventilation holes.

for our modern-day tools.

Now for vault construction... I made an exploratory hole in an interior vault wall steel panel with a StrongArm bit using brute force, and after using three bits and two men, I was in less than $\frac{3}{4}$ of an inch. I had read somewhere that this plate was very hard and about 1 inch thick. Now I am sure of this.

I have enclosed the patent from 1897 concerning vault construction assembly by James Williams (*Figure 29*). It shows the different layers and how they were to be tied together.

This vault was built in the year 1900 on premise with quenched steel made in Pittsburg. It starts in the cellar with a record vault. A thick cement floor is poured and cured. Then a record vault box was made with the steel plate and

angle iron corners. Walls, floor and ceiling were all steel plate. Then another 2 feet of concrete was poured on all sides as well as the roof, which was now the floor for the first floor vault. The steel was attached to the cement with special screws to ensure that there was no separation. Now, another vault box was constructed on first floor with the same steel and 2 feet of concrete on all sides except the back wall, which was only 1 foot thick. They had what I would call a record vault on the side, which was at the back of the vault. It looked like recent files were here and older files went downstairs. Then the servicemen would come in and hang the doors to complete the install.

Remington and Sherman started the company in 1892 and were active safe

makers until 1941. As it happens, they could no longer get steel plate to manufacture safes because of the war. All steel was being used by the government, which put them out of the safe-making business.

I hope you enjoyed this long-winded article as there was a lot going on inside this vault. And a very special thank you to David Hovey for all of his help with this article. ☺



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

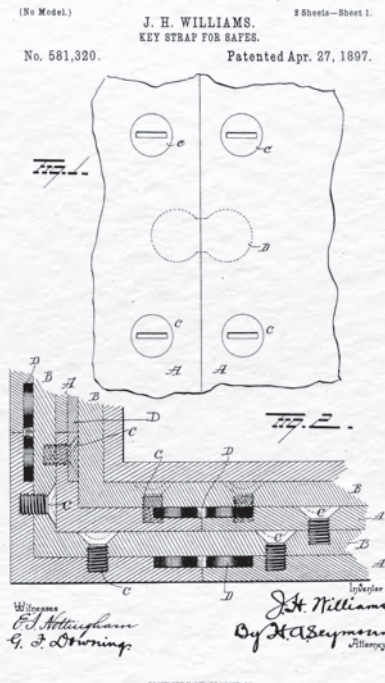


Figure 29. This is the patent from 1897 concerning vault construction assembly by James Williams.

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BEST Hacks, Part Two

Tony Wiersielis, CPL, CFDI, provides a few tips and sheds some light on the proper use of the set screw that comes with BEST mortise cylinders.

I'M GOING TO START WITH A FEW THINGS I DIDN'T GET TO LAST MONTH. THE first is what I wrote regarding timing the cam on a mortise cylinder. I forgot to mention that there are some rare occasions in which the cam needs to be as you see it in *Figure 1*. I believe I've had to do this on certain types of key switches and panic bar dogging devices.

Second, I went over what the control lug does, but not what keeps the core in place once it's installed. I cut the back off an old cylinder in *Figure 2* so you can see what the lug locks behind. The circle highlights the abrasion from the lug sliding behind it.

Third, I was asked to explain the proper use of the set screw that comes with a BEST mortise cylinder (*Figure 3*). This comes in the box with the cylinder, and I've often found it used incorrectly, as in *Figure 4*, where it is backwards. They get put in this way because some people think its purpose is to prevent the core from being removed. Nope. If anything, if you install this screw backwards, you probably won't get a core to go in.

The purpose of this screw is to add extra security against turning the cylinder

out with a wrench. It is installed as you see in *Figure 5*. The cylinder is screwed into the mortise lock and the set screw is tightened, and then the core is installed. This way, the screw locks the cylinder in place in addition to the screw within the chassis of the lock.

There is a drawback to this that can occur when you have a new core and control key but don't have the old control key. You can solve the problem quickly in an emergency by unscrewing the old cylinder — core and all — and installing a new cylinder. If the set screw was installed in the old cylinder and tightened, however, now you have an issue; you can't unscrew the cylinder without damage and may be forced to drill out the old core. Fortunately, being in this situation is quite rare, but it does happen.

Getting the Core Out — Intact

The first part of this article series ended with directions on how to pick the control on a BEST IC core if you didn't have the control key. This was done on a core that was not in a cylinder, but held in the hand, so the core could be installed without the control key.

When a core is in a cylinder and needs



Figure 1. There are some rare occasions in which the cam needs to be as you see it in this image.

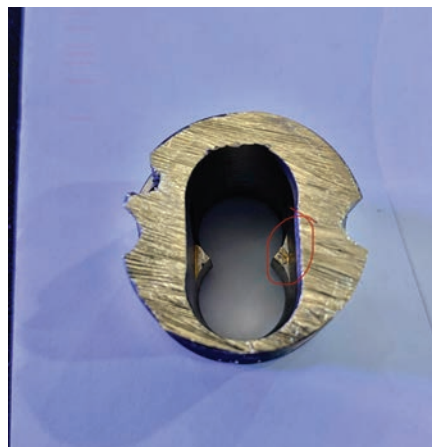


Figure 2. The circle highlights the abrasion from the lug sliding behind it.



Figure 3. This image shows a set screw that comes with the BEST mortise cylinder.

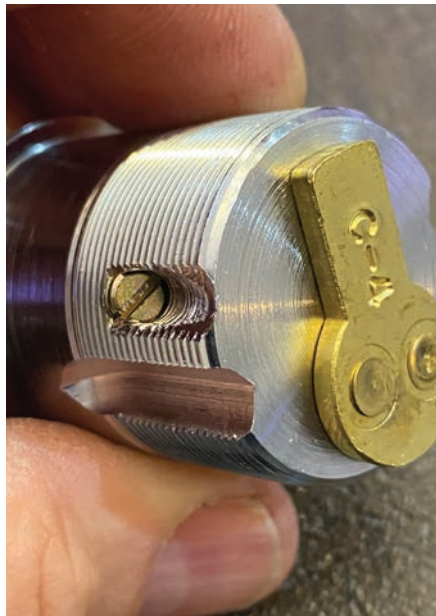


Figure 4. The screw is backwards.

to be removed, and you don't have a control key, that's a different story. There are several ways to deal with this issue. Your first option is picking. *Figure 6* shows a tension wrench designed by Gerry Finch. The little projections you see on the blade of the wrench are designed to engage and provide tension mostly on the control sleeve and not the plug itself.

Figure 7 shows those projections visible through the control sleeve of the core I disassembled last month. What happens when you use this tension wrench is similar to using your finger on the locking lug while using a paper clip, as I showed you last month. Obviously, if you purchase these tension wrenches, you need to practice with them to gain proficiency.

Even if you don't have the specialized tension wrench above, you should try picking it clockwise anyway. Why? I've been on numerous lockouts over the years where I had to pick a BEST core to open the door. Sometimes, in the process of that, I'd accidentally pick the control. Then it was a simple matter to pop the core out, open the door and pop it back in. I think it's worth trying for a few



Figure 5. The set screw is installed correctly.

minutes. You might get lucky.

Now, let's suppose you have a building with 40 offices and various outside doors. The owner bought the building that way and now wants you to supply and install new cores in all these doors. He doesn't have a control key.

Being able to pick the control is a dandy thing, but having to do it 40-plus times to remove all those cores is a job killer and a waste of time. So is drilling out each core. I'm going to show you how to reverse-engineer a core to produce a control key a little later.

Being able to decode and produce a control key from an existing core is one of the most valuable skills you can learn in the business. Think of the 40 doors I just mentioned. The half hour you might spend decoding will save hours of time on the job.

To decode a core, you'll need an intact core from the system you're working on. There are several ways to obtain this.

Before you try picking, ask if there are any extra uninstalled cores available. If there are, you're golden. If not, then try picking. If that doesn't work for you,



Figure 6. Gerry Finch designs this tension wrench.



Figure 7. The projections are visible through the control sleeve of the core.

there are several ways to remove the core without damaging any of the pins, which you're going to need to measure to decode the control key.

One Option

Remember last month when we used our finger or a tool to put pressure on the control lug to pick it with a paper clip? This time, if we have a mortise or rim cylinder, we can drill a small hole in the side to allow us to use a pin ejector or small punch to put pressure on the lug while we use lock picks to manipulate the tumblers instead of a paper clip through the bottom holes.

Figure 8 shows me holding a core against a cylinder to mark where I want to drill the hole. You can see a black mark near my thumb in the groove where the



Figure 8. The black mark near the author's thumb in the groove shows where the set screw or yoke would normally bite into the cylinder once it's installed in the lock.



Figure 9. The drilled hole is shown.

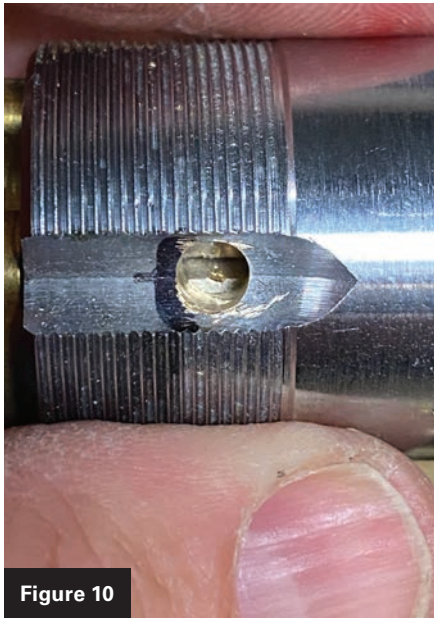


Figure 10

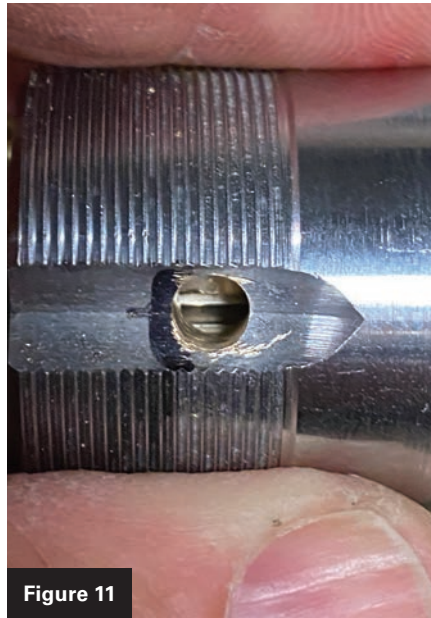


Figure 11

Figures 10 and 11. The lug is shown in the locked and unlocked positions.

set screw or yoke would normally bite into the cylinder once it's installed in the lock. I'd recommend using a vise when you drill this, and be mindful of the threads on the cylinder when you clamp it.

Figure 9 shows the drilled hole, which I decided to move slightly forward of my mark. You want to drill this hole a little bigger than the tool you're using to apply pressure. Also, be careful, drill slowly and feel for the point at which you break through the cylinder wall. There's not a lot of space between the cylinder and the lug. If you do drill into the lug a tiny bit, you should be fine; just don't plow

through it. If you don't damage it, you can use the core again. The same goes for the cylinder.

In Figures 10 and 11, I enlarged the hole so you can see what you normally wouldn't: the lug in the locked and unlocked positions. This hole is for instructional purposes only; if you use this method, keep the hole small.

Pressure on the lug itself is often a surer way of picking these things than a tension wrench, as the wrench tends to slip just when you think you've got it. Still, sometimes it won't work for you.

The next step will require you to sacrifice a cylinder and possibly the core itself

to get it out. Even so, as I said before, it's worth it to have the control key, and the customer isn't going to mind if you explain why you're doing it.

Figure 12 is a hole (I believe it was $\frac{1}{64}$ ") that I drilled along the side of the core. Look closely and you can actually see the lug on the right of the hole. The idea is to remove the part of the cylinder that the control lug locks behind, which I showed you back in Figure 2. If you can get that out of the way, you can get the core out.

Once you've made the hole, if you try to pull the core out and it won't budge, it is usually easier to tap it out from the back. In Figure 13, I removed the cam and started tapping the back of the core with a punch to push it out. See that black dot above it? I could have drilled there as well to get it out. Figure 14 shows the core partially out of the cylinder.

Figure 15 shows the lug partially drilled away. I was in a hurry when I did this, and that's the result. For what I'm going to show you, this doesn't matter at all. As long as the core can function normally and the pins are unaffected, I'm good. However, learn from my experience. Next time, I'll check the depth before I drill and maybe use a drill stop.

Decoding the Core

Now that you have that sucker out, you'll need two tools to decode the core — aside from whatever you use to cut the key and, obviously, key blanks and hand tools. Those specialty tools are a micrometer or dial caliper (Figure 16) — digital or analog — and something to help you remove the pins in an orderly fashion.

Figure 17 shows a Lab Annex, and Figure 18 is made by A-1, though I believe they have recently ceased operations, sadly. They offered a lot of must-have items for the trade, and they will be missed.



Figure 12. You can see the lug on the right of the hole.



Figure 13. The cam is removed, and the author is tapping the back of the core with a punch to push it out.



Figure 14. The core is partially out of the cylinder.



Figure 15. The lug is partially drilled away.

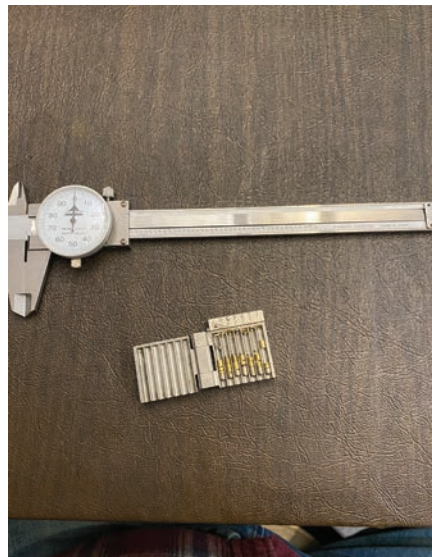


Figure 16. You'll need a micrometer or dial caliper to help decode the core.

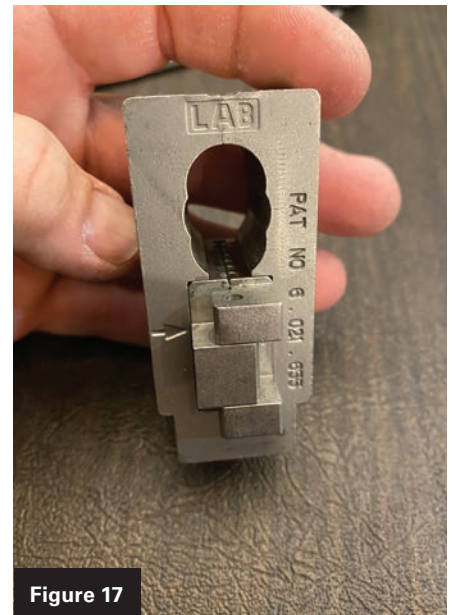


Figure 17

Both of these tools work well, but the Annex is more versatile in that you can cap cores with it, remove a piece and dump pin chambers with it and clamp in a vise if you wanted to. *Figure 19* is what we need, and both tools have something like it.

Look at the Annex again. Insert the core in upside down and eject the pins into the insert part below. Then carefully slide slide it out and just as carefully open it, as you saw in *Figure 19*.

We need to measure the top pin only. You don't want to mix up any of the pins, as it is possible to put them back in a core with new springs and caps if you needed to. In our scenario with the 40 doors,

we're replacing all the cores. On a different job, you may only need to provide the control key and put the core back in when you're done. I'll show you how to do that another time.

Let me pause for a second. I have a BEST capping press and key punches and the whole nine yards. That's great, but the Annex is a useful tool to have even if you have what I do. It's small and actually fits under the pins in a Lab Wedge A2 pin kit. Worth every dime.

Back to the story. *Figure 20* shows me using the caliper to measure the top pin, first chamber. You can see it reads .161. If you look at the chart, you



Figure 18

Figures 17 and 18. *Figure 17* shows a Lab Annex, and *Figure 18* is made by A-1.



Figure 19. After you insert eject the pins, slide out the insert and carefully open it, you'll see something like this.

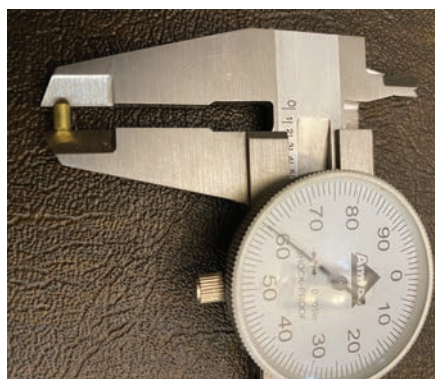


Figure 20. The author is using the caliper to measure the top pin, first chamber.

“Before you try picking, ask if there are any extra uninstalled cores available. If there are, you’re golden.”

Top Pin Length	PIN Code
.25"	2B
.0375"	3B*
.050"	4B
.0625"	5B
.075"	6B
.0875"	7B
.100"	8B
.1125"	9B
.125"	10B
.1375"	11B
.150"	12B
.1625"	13B
.175"	14B
.1875"	15B*
.200"	16B
.2125"	17B*
.225"	18B
.2375"	19B*

Top Pin Length	PIN Code
.021"	1F
.042"	2F
.063"	3F
.084"	4F
.105"	5F
.126"	6F
.147"	7F
.168"	8F
.189"	9F
.210"	10F
.231"	11F

*Not used in a pure two-step progression

Figures 21 and 22. Figure 21 is a BEST A2 chart with the length of the top pins and the corresponding BEST PIN numbers. Figure 22 is the same chart for the A4 system.

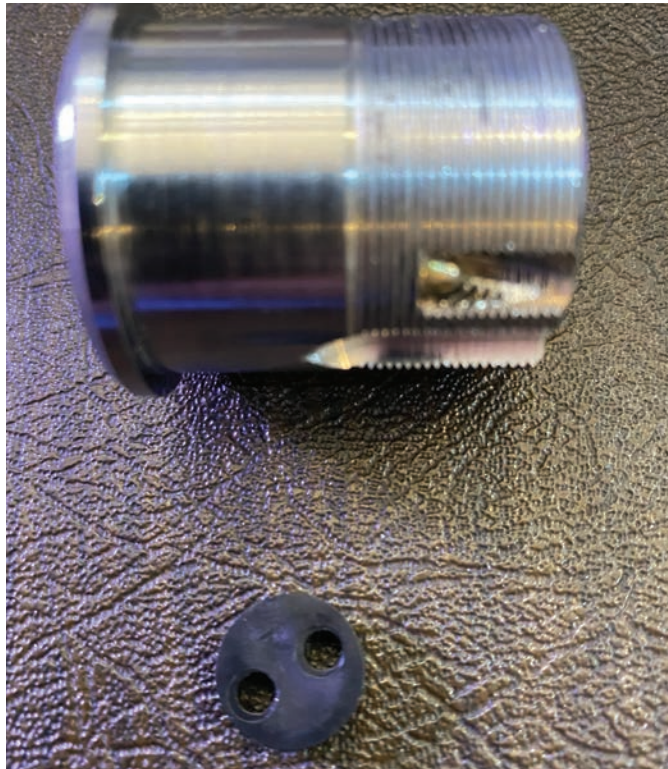


Figure 23. A black spacer is used to allow a six-pin core to operate in a seven-pin cylinder or lock.



Figure 24. The spacer is an example of installing everything in the box out of ignorance.

can see that a number 13 pin is .162. Close enough.

Figure 21 is a BEST A2 chart with the length of the top pins and the corresponding BEST pin codes. Figure 22 is the same chart for the A4 system. As you measure each pin, compare the measurement with the appropriate chart and write down its PIN code. If you're new to BEST, the combinations are read from the back of the core. So pin chamber #1 is the first chamber at the back of the core, and the first cut is at the tip of the key. Everything is from tip to bow, unlike standard cylinder keys.

You'll also notice that BEST keys don't have a shoulder; they are indexed from the notch at the bottom of the tip of the key. Bear this in mind, and don't be like the home center key maker who just learned how to cut keys 12 minutes before you passed their kiosk. If you don't have a key punch, make sure you index from the notch and not the tip to avoid issues.

Once you have your six or seven PIN codes, use one of the following formulas:

For A2 systems, **SUBTRACT THE PIN CODE NUMBER FROM 13.**

For A4 systems, **SUBTRACT THE PIN CODE NUMBER FROM 8.**

As you do your subtractions, write each answer down in order. These will be the cuts on the control key.

I would love to tell you what the control key was for the pins you saw in the Annex, but when I left for vacation, I left that information home by mistake. Since the pin you saw in the picture was a 13, and it was an A2 system, that meant that the first cut was a zero.

A Few Hacks

Figure 23 is a shot of a black spacer used to allow a six-pin core to operate in a seven-pin cylinder or lock. Since most cores now tend to be seven-pin, these are

often discarded, though I recommend you save up a small stash of these in case you need them.

If you ever get a call that an end user can't get his cores into a newly installed cylinder or lock, it's very likely to be what you see in Figure 24. The spacer is installed in a seven-pin cylinder, and a seven-pin cylinder has to go in, which it can't. On one hand, other trades often throw out important parts, such as throw members, out of ignorance. The spacer is an example of the opposite: Install everything in the box out of ignorance.

Figure 25 shows the back of an uncombined core with the control lug in the locked position, but the plug turned deliberately. Pinning a core this way allows you to check if all of the pin stacks are at the same height when you're done, as in Figure 26. The drawback is that if you think you made a mistake in a chamber



Figure 25



Figure 26

Figures 25 and 26. Pinning a core this way (Figure 25) allows you to check if all of the pin stacks are at the same height when you're done, as in Figure 26.



Figure 27. If you tilt the core, you can tell at a glance if all the chambers are the right height.



Figure 28



Figure 29

Figures 28 and 29. These images show a BEST dummy cylinder that can be used as a mortise or rim cylinder.

and want to remove the pins using a pin ejector, you have to line up the plug with the control sleeve. Everything drops to the bottom of the core.

If that happens, or if you'd rather pin it normally, tilt the core as in Figure 27, and you can tell at a glance if all the chambers are the right height.

If you've pinned a core and the key seems difficult to turn, flip the core over and turn the key 180 degrees, and then look at the holes in the bottom of the core. If one of the pin stacks has a stack height of 24 instead of 23 in A2 (or 15

instead of 14 in A4), it will look different from the others because the top pin is dragging as the plug turns. If you dump that chamber, the problem goes away, and you'll need to re-pin that chamber.

Figures 28 and 29 show a BEST dummy cylinder that can be used as a mortise or rim cylinder. This is a joy to work with because the slot on its face allows you to use a screwdriver to turn it in. You also know exactly when the grooves on the side of the cylinder are lined up with the chassis set screw because the slot is lined up with them. You know it's a pain to screw in a

standard dummy cylinder because there's nothing to grab and turn as you tighten it. With this, that's not a problem anymore.

Special thanks to Bill Lynk for the use of his charts from a previous article. 🙏



Tony Wiersielis, CPL, CFDI, has more than 30 years of experience and has worked in most phases of the trade throughout the New York metropolitan area. He was named *Keynotes* Author of the Year for 2016.

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Expanding the Scope of Education at ALOA

By Jim Hancock, CML, CMST

ONE THING THAT WE IN ALOA EDUCATION ARE ALWAYS BRAINSTORMING about (or, in our case, probably more like brain drizzling) is what we and ALOA can possibly do to enhance the value proposition of being a member. This is always a big discussion with us, as it is difficult to come up with benefits that can be added without an increase in fees as well. We have published surveys, sent out fact-finding emails and polled people at the conventions about what could be done. Unfortunately, the answers are almost always the same: lower education class costs. While this is something we would love to do, as I have detailed in previous articles here, the cost associated with holding a class (instructor travel, lodging, daily fee, shipping of materials, local transportation, printing of materials, blah blah blah) has increased very steadily over the years. As such, the cost of classes has had to keep pace in order to continue.

Lower costs would be great, and if we ever get in a position to do so, we absolutely will make it happen. As a class attendee myself for many years, I understand and feel your pain. You are not only paying for the class and your own travel and costs associated with it, but you also deal with the income lost because you aren't running your business or caring for your customers personally.

The Answer?

We have kicked around a lot of ideas and think we may have come upon one that is by no means new, but one ALOA has not really embraced over the years as much

as other publications and organizations. We would like to help members by doing product testing and reporting to you, the membership, what we find. Now understand, this will not be a “we hate this because...” testing but more of a “matter-of-fact” test where we will put items, hardware and tools through the rigors and see what happens. We will then put together a report or article that will relay what we did and the outcome, and that will be it. No judgment; just factually what happens.

As I always ask when looking at something new, would this appeal to you as members to have a fact-based report with zero opinions on the hardware and tools we use daily? How about you, Associate members and manufacturers? Would you be interested in having us test your item(s) and new products? Please email us at Education@ALOA.org and let us know if this would be of interest to you as a member or manufacturer. ☺



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



ALOA

ALOA Security Professionals Association, Inc.

Membership Application

CANDIDATE PLEASE TYPE OR PRINT

Name: ☐ Mr. ☐ Mrs. ☐ Ms. First _____ Last _____ MI _____ Designation _____

Business Name _____

Mailing Address _____

City _____ State _____ Zip Code _____ Country _____

Work Phone _____ Home Phone _____ Fax _____

Email Address _____ Website _____

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

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

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

PROFESSIONAL INFORMATION

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

- | | | |
|--|--|---|
| <input type="checkbox"/> Locksmith Owner | <input type="checkbox"/> Automotive | <input type="checkbox"/> Employee Technician |
| <input type="checkbox"/> Electronic Security | <input type="checkbox"/> Security Professional | <input type="checkbox"/> Mechanical Door Locks & Hardware |
| <input type="checkbox"/> Institutional | <input type="checkbox"/> Safes | <input type="checkbox"/> Investigative |
| <input type="checkbox"/> Other _____ | | |

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

Business License # _____ EIN # _____

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

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

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

Number of Employees _____ ☐ Store Front Business ☐ Mobile Only

How did you learn locksmithing/access control? _____

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

ALOA member Sponsor Name/Who introduced you to ALOA?

Sponsor Name (Required) _____ ALOA Number _____ Years known _____

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

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

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

Name _____ Company _____ Phone Number _____

Name _____ Company _____ Phone Number _____

IMPORTANT: Have you ever been convicted of a felony? ☐ Yes ☐ No If yes, please give details on a separate sheet.

All convictions are reported to the Advisory Committee for review.

A routine background check is performed on all new applicants, unless you live in a State in which passing a background check is a part of the licensing requirements. Non-US citizen background checks are required. If you live in a country that does not allow third party background checks, you will be required to submit an authentic report upon request (no copies/duplicates allowed) before final membership approval can be granted. A copy of your business permit/license, license number, business card, company letterhead or suitable proof of employment in the locksmith/access control business must accompany application.

TYPES OF MEMBERSHIP AND REQUIREMENTS

Check only one box from the categories listed below:

Active Membership

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

<input type="checkbox"/> US and US Territories	\$255	<input type="checkbox"/> I elect to Go Green	\$230
<input type="checkbox"/> International	\$270	<input type="checkbox"/> I elect to Go Green	\$200

International Association of Investigative Locksmiths Membership

Must be an ALOA Member in order to join the IAIL.

<input type="checkbox"/> US and US Territories	\$55
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Probationary Membership

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

<input type="checkbox"/> US and US Territories	\$255	<input type="checkbox"/> I elect to Go Green	\$230
<input type="checkbox"/> International	\$270	<input type="checkbox"/> I elect to Go Green	\$200

Probationary Membership – No Sponsorship Required

Persons undergoing training that are new to the industry and do not know any Active member for sponsorship. Probationary period extended from 90 days to one (1) year. Probationary status lifted if sponsor acquired within year. Must obtain license if residing in State requiring licensure. A second background check will be performed by ALOA after 2 years of the 3 year maximum term. Any violation of ALOA Code of Ethics during probationary period will result in immediate termination of membership.

<input type="checkbox"/> US and US Territories	\$255	<input type="checkbox"/> I elect to Go Green	\$230
<input type="checkbox"/> International	\$270	<input type="checkbox"/> I elect to Go Green	\$200

Allied Membership

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

<input type="checkbox"/> US and US Territories	\$255	<input type="checkbox"/> I elect to Go Green	\$230
<input type="checkbox"/> International	\$270	<input type="checkbox"/> I elect to Go Green	\$200

Note: Your application will be processed with a 90 day waiting period.

Any institutional locksmith not using his/her work address must submit a letter from employer stating that you are an institutional locksmith.

DUES AND FEES

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

Application Fees Schedule:

US and US Territories	\$70
Canada, Denmark, Ecuador, New Zealand	\$160
Australia, Bahamas, Barbados, Belgium, Belize, Bermuda, China, France, Haiti, Philippines, UK	\$210
Israel, Korea, Papua New Guinea, Saudi Arabia, United Arab Emirates	\$360

Applicants from countries not listed must submit background check and report from local Law Enforcement with application.

FINAL CHECKLIST

<input type="checkbox"/> Required Proof of Employment in Industry	_____
<input type="checkbox"/> Annual Dues Amount	_____
<input type="checkbox"/> Application Fee	_____
Total Amount Due	_____

METHOD OF PAYMENT

☐ Check ☐ MasterCard ☐ Visa ☐ American Express ☐ Discover

Card Number _____ Expiration Date _____ SEC _____

Print Name on Card _____

Signature _____ Date _____

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

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

Signature _____ Date Signed _____

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

Return to:

ALOA, 3500 Easy Street, Dallas, TX 75247
Fax (214) 819-9736 • Email: membership@aloea.org

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Phone: 562-666-6066
www.everlockus.com

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Phone: 800-523-2924
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www.fbisecurity.com

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www.hjc.com

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www.hardwareagencies.com

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www.hlflake.com

IDN Incorporated

Phone: 817-421-5470
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Phone: 800-453-5386
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www.imlss.com

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www.jovanlock.com

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www.locksmithledger.com

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Fax: 925-666-3671
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Security Door Controls

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Contact Mike at 6016michael@gmail.com <05/20>

HELP WANTED

Locksmith Wanted

Full time locksmith/classified material tech needed at JSC-Houston. Must pass federal clearance. See this link for details: <https://bit.ly/2GusyNI> <05/20>

Classified Advertising Policy

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

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

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