The official publication of ALOA SPAI, an international association of security professionals January 2013

KEYNOTES

SECURING YOUR SUCCESS

OIL AND WATER — AND KABA PEAKS

How to bring together incompatible elements

Color Coding: It's Not Just for Kids Anymore

PLUS

A Step-By-Step Intro to Making Keys

Valley Lock & Safe | Standardized Report Language | Locksmithing in Japan | New Products

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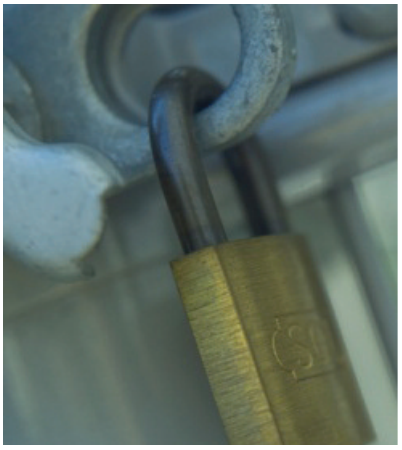

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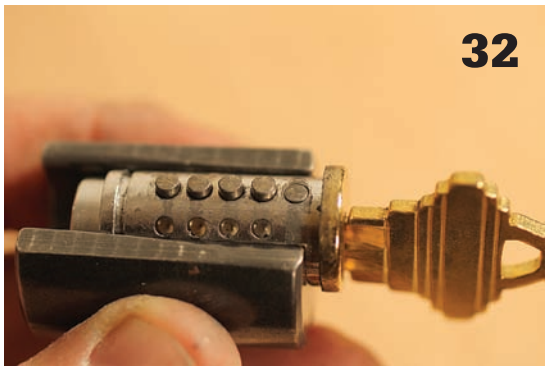

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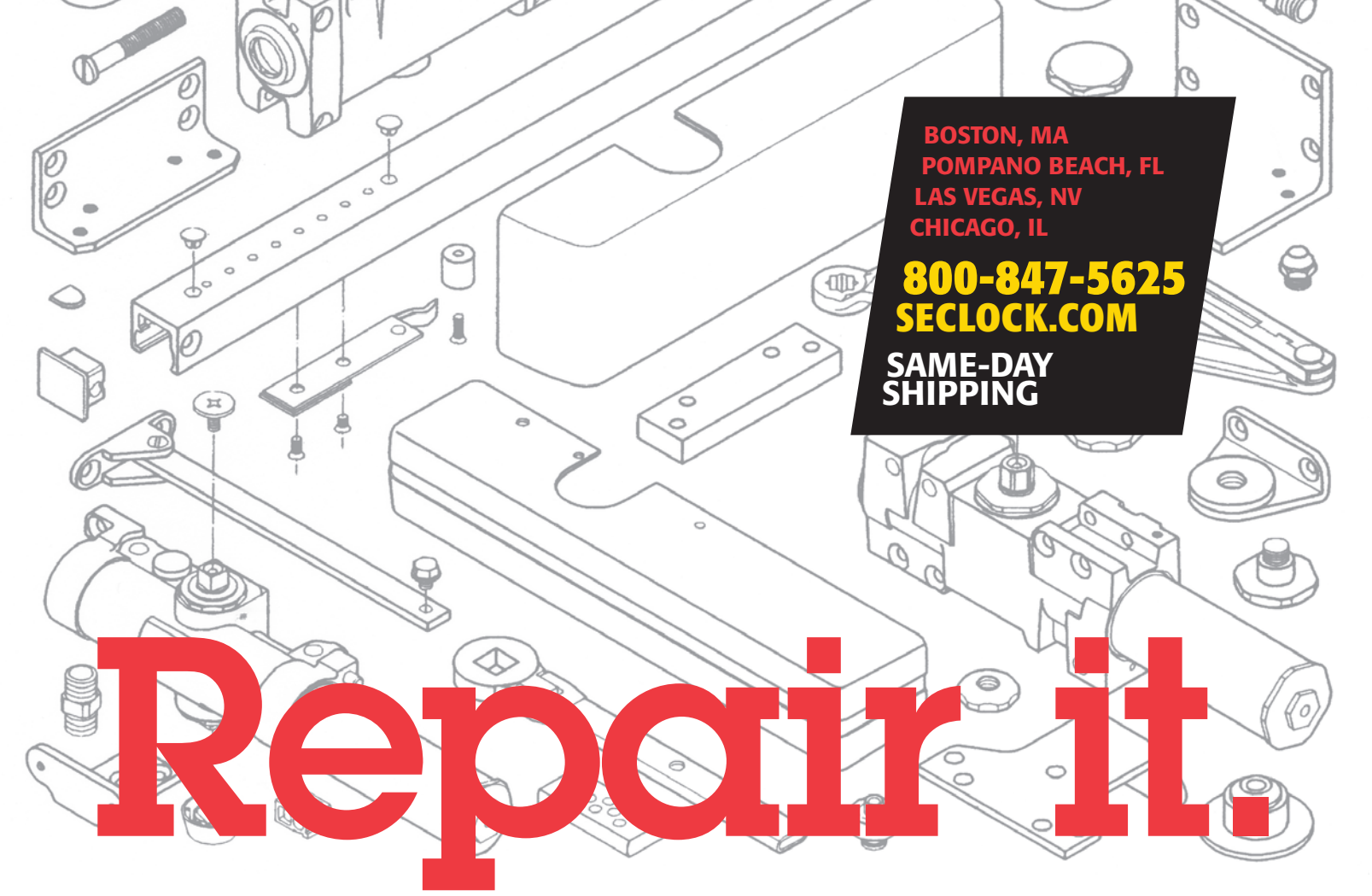

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Introducing ALOA SPAI

I would like to introduce you to ALOA SPAI, ALOA Security Professionals Association Inc., our new parent corporation. It is important that ALOA moves ahead to embrace all aspects of security. We are more than just key grinders and lockout specialists; we are locksmith security professionals, and we're damn proud of it! I want to thank everyone who voted. By the members ratifying our new corporations bylaws, we're able to start off the year with a clean slate.

Aside from our new corporation, we have a new executive director, Mary A. May, who has given her business career to ALOA working in every aspect of ALOA, except education — and I believe that if we would have asked her to take education over and run it, she would have done a fantastic job. Thank you, Mary, for your years of dedication and hard work — and we're looking for another productive 30 years, God willing!

As we prepare for another four years of our current government, we must look at some of the positive aspects of this regime. With their dedication to education, we are in a key position to grow our locksmith school. We have approval from the Veterans Administration for structured education for older veterans and departing veterans from the Middle East, who are assimilating back into society. Veterans make great employees because of their discipline and maturity. Work with Jim Hancock to arrange an interview with a veteran for your business today.

ALOA will host our first show in Guadalajara, Mexico, with educational days on February 27 and 28, and show exhibits on March 1 and 2. Plan a winter vacation to sunny Guadalajara, with direct flights from most U.S. cities. Mingle with your counterparts and discuss locksmith issues. You'll find that we all face the same issues.

SAVTA will be in Lexington, Kentucky, in May for their educational convention and trade show. Lexington is the Mecca to safemen around the world, so you do not want to miss this event for top-notch education and camaraderie.

May you all have a prosperous 2013!

Best regards,
Tom Demont, AHC, CAI, CFDI, CFL, CMIL, CML, CPS, ARL

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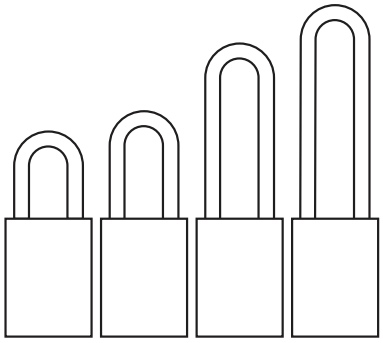

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"As we enter a brand-new year, it's time to seize opportunities and prepare for sales growth and profitability."

A New Year, A New Opportunity

For many people, 2012 was not so easy. Although the recession was said to be over a few years ago, the fallout is still ever-present. While progress has been made, our industry, like many others, is still playing catch up. Recovery always takes longer than expected — or desired.

Little by little, though, optimism is overtaking the gloom. As we enter a brand-new year, it's time to seize opportunities and prepare for sales growth and profitability. Strengthening the value of perception between a company and its customers is more important than ever. Consumers have resumed buying security hardware and services, albeit more conservatively.

It's especially important to provide personal, hands-on connections with customers, and to maintain contact and continually surveying what matters to them — regardless of the status of the economy.

Social media tools such as Facebook and LinkedIn are powerful and cost-efficient means for building and strengthening customer relations. Blogs have also proven to provide potency as a marketing tool; studies show they boost website visits by more than 50%. One social media survey showed that 45% of respondents said they have decided to purchase an item after seeing it on a blog.

Email marketing is also well suited for an environment in which marketing resources are limited. And if your business model includes light commercial or residential customs, Twitter is an effective way to highlight your products and services, showcase your expertise, and connect with others who have opted-in to follow you.

Consider new ways to put a spin on your offerings, in addition to traditional marketing strategies. Rearrange merchandise to update the customer experience. Offer rebate programs that repeatedly bring back customers. If you have a storefront location, host special events such as in-store demonstrations of new products or weekend sidewalk sales.

Take advantage of this new year — and this new opportunity to incorporate additional strategies into your 2013 business plan.

Mary A. May
Executive Director

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Shhh! Ingersoll Introduces Suite Of Whisper-Quiet Products

For areas used for sleeping, healing, study, concentration or the overall reduction of auditory disturbances, Ingersoll Rand Security Technologies has brought together a suite of products that provide customers with whisper-quiet latches and sound-reducing exit devices. The suite includes a collection of Von Duprin products comprising push pads, latches and exit devices.

"The right environment helps everyone do a better job, and noise reduction can be a key component for many environments," says Joseph Vaida, portfolio marketing manager-mechanical. "For these applications, the same door hardware that's used in one place in the facility may not be appropriate for areas that need to minimize noise. Therefore, for a doorway that is not intrusive, we created this suite of Von Duprin products with quiet options."

The quiet suite eliminates the sounds of door hardware not noticed in standard locations. For instance, by replacing magnetic solenoids that require high voltage inrushes for traditional noisy electronic latch retraction with motor-driven latch retraction, a much quieter solution with fewer disturbances is possible. In hazardous areas where electronics are not permitted but still require quiet latch retraction, pneumatic latch retraction is ideal.

DORMA Acquires RCI, Extending EAC Portfolio

Dorma has acquired the Canadian company Rutherford Controls Intl. Corp. (RCI) through DORMA Americas. This acquisition extends DORMA's portfolio of ANSI-compliant electromechanical access control products and systems, and strengthens DORMA's presence in the North American market. Headquartered in Cambridge, Ontario (45 minutes southwest of Toronto), RCI also has a subsidiary in Virginia, a new warehouse opening in southern California, and a sales network of more than 50 agents across North and South America.

"The Americas region provides great opportunities for gaining market share based on our ability to offer integrated premium access solutions, and the RCI acquisition represents a big step forward in this regard," says Wil VandeWiel, area president of DORMA Americas.

The RCI brand will be retained after the closing of the deal, and RCI management will remain actively involved in leading the business.

RCI/Dorma management group (left to right): Vicki Rutherford, Eric Gowland, Brent Mountford, Kurt Denner, Wil VandeWiel and Josh Horvath.

See Your Chapter in Print

What's happening in your ALOA chapter or affiliate? From trade shows and education seminars to networking events or special recognition, *Keynotes* wants to know about it. Contact editor@aloa.org to submit your chapter and affiliate news — and see yourself in print.

SLD Announces New Parts Department

Security Lock Distributors (SLD), a stocking distributor of life safety and security products, announced that they have deployed an assigned team of parts experts to assist customers in servicing the replacement market.

"We strive to provide our customers a superior service," says Michael Clebnik, executive director of partnerships. "End users are seeking ways to extend the life of field-deployed equipment, and we have the largest inventory of replacements parts in the country."

Adding an efficient access path to their parts department will assure customers that they can find, source, and be delivered these items in the shortest time possible, according to the company.

SLD represents more than 88 manufacturers and 1.75 million unique SKUs.

NEWS BRIEFS

The **Master Lock** booth at the National Safety Council's Congress and Expo, held October 22-24 in Orlando, experienced many more visitors this year as they presented a full line of premier safety padlocks, lockout/tagout (LOTO) devices and covers.

"We showcased our safety padlocks, including the designed-for-safety thermoplastic line and the popular aluminum padlocks, as well as other Safety Series devices, signs and tags and consulting services," says Todd Morrison, product manager.

The NSC venue provided a preview of the new S3081 adjustable ball valve, which prevents accidental activation of a closed ball valve. It works in tandem with the S806 cable lockout for the most secure fit, according to the company.

H.L. Flake Security Hardware recently hired Kathy Euler as regional sales/marketing manager, working remotely from Smithtown, NY.

SDC-Security Door Controls, manufacturer of access control hardware, and **Clark Security Products**, a wholesale distributor of security products, recently announced their partnership. As of late 2012, Clark now stocks SDC products nationwide.

Your Online Education

ALOA — in conjunction with STAM Multimedia, SecurityCEU and IFDIA — offers Web-Based Training (WBT) courses on the latest security technology, with member-only discounts that include:

- Around-the-clock access for learning at your own pace, in your own time
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- ALOA PRP re-certification program points

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You Hold the Keys.

PRODUCT BRIEFS

ASSA ABLOY and Immotec Systems recently announced the integration of Immotec's access control solutions with ASSA ABLOY's range of Aperio wireless locks. Immotec's iSafePro 360 product line and management software have been fully integrated to work with ASSA ABLOY's Aperio wireless lock technology, which will deliver wireless capabilities to Immotec's access control solution.

iSafePro 360 is a complete range of access control solutions suitable for residential and commercial buildings requiring real-time monitoring and flexibility. The iSafePro 360 range includes IP-based proximity access control, elevator and automation control, visitor management, hands-free access control, advanced biometric modules, IP surveillance integration, wireless access control and more.

Access Tools recently introduced the Twin One-Hand Jack Set, which includes the new Twin Air Jack and Mini Starter Air Jack air wedge, enabling an operator to gain access to virtually any vehicle on the road today, according to the company. The Mini Starter Air Jack aids in the opening of vehicles with soft metal B-pillars, preventing from damage. The Twin Air Jack is perfect for vehicles with stiff door frames, providing the even force required to keep the door frame in alignment, according to the company.

Genetec Heads for the Cloud

Genetec, a provider of class unified IP security solutions, recently unveiled its plans to bring physical security software to the cloud. In conjunction with a strategic multi-year alliance with Microsoft Corp., Genetec is developing true, reliable, hosted security solutions including video surveillance, access control and license plate recognition (LPR) as a service that will be built on Microsoft's Windows Azure cloud-computing platform.

The new cloud-based security solutions will combine the strength of Genetec's unified security platform with the global reach, scalability, and reliability of Windows Azure. Following an aggressive development schedule, Genetec is planning on delivering its first cloud-based service offering in the first half of 2013.

Kaba Introduces Engraving Unit

Kaba Ilco Corp. recently introduced the Engrave-It XP, a mid-level addition to the company's line of engraving equipment. The unit offers an affordable alternative for the shop, store or institutional facility that requires a high-end, entry-level engraving machine, according to the company. The Engrave-It XP engraves multiple keys, IC cores, key tags, luggage tags, pet tags, plates and more. This model is also capable of engraving many additional items that are made of various metals, acrylic, brass, wood and plastic.

Yale Locks & Hardware Intros Closer Series

Yale Locks & Hardware, an ASSA ABLOY Group company, recently introduced its 5800 Series Cast Iron Door Closer. The economically priced 5800 Series combines ease of installation and use with rugged performance and clean design, according to the company. Yale's 5800 Series features include adjustments for backcheck, closing speed, latch speed, rack and pinion operation; and a variety of arm options.

As of November 14, 2012

NEW APPLICANTS

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Jeremiah Scofield
Sponsor: William Lee, CRL

FLORIDA

Lake Park
Mike Maslati
Sponsor: Eli Shoulklaper, RL

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Manuel J. Alvarez
Sponsor: Bryan D. Turner, RL

MASSACHUSETTS

Plymouth
Robert P. Daniels
Sponsor: Carl L. Feinberg CML

MICHIGAN

Brighton
Joel W. Kocevar
Sponsor: Jeremy M. Ameen, CML

Davisburg
Daniel J. Heffelbower
Sponsor: David E. Burger, RL

MONTANA

Bozeman
Paul W. O'Leary
Sponsor: Richard O'Donnell, RL

NEW YORK

Brewster
Dennis L. Hymowitz
Sponsor: Leland K. Imm, RL

OHIO

Sylvania
Timothy Sarver
Sponsor: Michael R. Schleyer, CPL

PENNSYLVANIA

Reamstown
Mike Messner
Sponsor: Jerome V. Andrews, CML

UTAH

Orem
Michelle Thomas
Jared R. Mellor
Mark E. Bateman

VERMONT

South Woodstock
Dennis J. Barr
Sponsor: David A. Keenan, CRL

WEST VIRGINIA

Morgantown
Chad A. Cooper
Sponsor: Chad Caldwell, RL

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

We Need Your Help

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

CALENDAR

FEBRUARY 2013

Feb. 6-8
IML Expo
Intermountain Lock & Security Supply
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(800) 528-1546

Feb. 22-24
ACE: Winter Education Weekend
Minnesota Chapter of ALOA
Plymouth, Minnesota
Dana Lee, CML, CPS, (612) 968-3257
danaleecml@gmail.com

MARCH 2013

Mar. 7-9
IML Expo
Intermountain Lock & Security Supply
Universal City Hilton, Los Angeles, CA
(800) 729-5444

Mar. 21-23
IDN 2013 Trade Show and Security Conference
Sheraton Detroit Novi Hotel, Novi, MI
Ronald Weston, (734) 293-0082

MAY 2013

May 6-11
SAFETECH 2013
Lexington, KY
(214) 819-9771

May 22-25
ACE: SERLAC 2013 Locksmith Convention
Associated Locksmiths of America
Tampa, Florida
ALOA Education, (800) 532-2562, ext. 204
education@aloa.org

JUNE 2013

Jun. 8-9
ACE: Complete Door Closers; Exit Devices & Exit Alarms
Alabama Locksmiths Association
Montgomery, Alabama
Barbara McGowin, (205) 338-1150
locksmithala@gmail.com

Jun. 19-21
IML Expo
Intermountain Lock & Security Supply
Sports Authority Field at Mile High Stadium, Denver, CO
(800) 323-8046

JULY 2013

Jul. 13-20
ALOA Convention & Security Expo
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For a complete calendar of events, visit www.aloa.org.

Formatted Reporting

The benefits of standardized report language.

By Jeffrey Lange, PE, CFL

For the forensic expert of any discipline, the routine use of specific procedures is the most efficient and scientific way of performing a requested analysis. Experts who routinely perform the same procedures have protocols of some sort on which the collection of data and evidence is based. These protocols may be developed by the investigator, internally by a private company, by a recognized authority such as a professional organization, and/or by a government entity.

It is considered foundationally essential to have, and use, some formalized process or protocol if one chooses to recognize and abide by the scientific method, especially if that investigator hopes to have his testimony reach the trier of fact (judge, jury, arbitrator, etc.). An account of the procedures and protocols usually accompanies the expert's findings and opinions in a written report.

A report prepared by a forensic expert is the culmination of his investigation into a matter of issue. The expert's opinion is derived, in part or whole, from data collected using standardized procedures and protocols. A properly prepared formal report generally includes the procedures, protocols and data on which his opinion is based.

If an investigator is using the same procedures and protocols during different matters of similar nature, the description of those procedures and protocols will often be of similar form and language in each written report — and for good reason. If the analysis of the evidence and data collected leads the investigator to a conclusion he has drawn in a previous investigation, then all things being equal, the language used to present the opinion may be similar to that of previous reports.

The practice of using similar language in different reports is sometimes looked upon as complacency or laziness on the part of the

reporting investigator. However, this could not be further from the truth.

The Value of Consistency

When an investigator specializes in a particular area investigation or has performed repeated evaluations of similar circumstances, it behooves that investigator to report his findings and opinions in a manner proven to be an efficient and effective use of descriptive, standardized language regardless of whether that language has been used in previous reports.

It goes without saying that investigators who perform the same type of analysis over and over have, do and will continue to use what has been inappropriately demonized as "boiler plate" or "cookie cutter" reporting (reports that use and re-use language and reference information that has previously been part of another report).

"Cookie cutter" or "boiler plate" reports are those characterized as verbiage that is used over and over again in various reports and documents. Such use of language is commonplace in legal documents to the point that those sections of such documents are often overlooked. However, it has been alleged that the use or re-use of language in forensic reporting is somehow characteristic of inadequacies in the analysis or complacency on the part of the investigator suggesting that he won't take the time or interest to create new and different ways of saying the same thing when reporting on similar cases. Any seasoned forensic expert knows the great value of re-using verbiage that has passed the scrutiny of testimony and cross-examination.

The Federal Rules of Evidence, Rule 702, outlines the basis for the admission of scientific testimony in the Federal Court System. This rule, citing aspects of prior Supreme Court rulings such as "Daubert vs. Merrill Dow Chemical," includes the criteria of standardization by requiring that expert testimony "is the product of reliable principles and methods."

> "A report prepared by a forensic expert is the culmination of his investigation into a matter of issue. The expert's opinion is derived, in part or whole, from data collected using standardized procedures and protocols."

Consistency and recognition of procedures and protocol is believed to establish the validity of the method and agreement within a scientific community thus making those procedures and protocols "reliable" in the eyes of the court. If consistency in "principle and method" is the basis for reliability, than consistency in the way those methods are reported should naturally follow.

Experts are the educators of the courtroom. Their purpose is often to explain complex concepts, such as transponder immobilizers, to non-technical, non-forensic participants in a trial. Such participants may include attorneys, clients, judges and juries. When a testifying expert can make a technical concept understood by the court, the descriptive manner, demonstrative aids and necessary metaphors should be considered for future testimony.

Texts, technical papers, studies and other writings are often used by educators to develop structured lessons. Year after year, educators at every level use and reuse course formatted outlines, lesson plans, demonstrative aids, and standardized language across their curriculum. Textbooks use and reuse both content and language, often varying only the layout and diagram detail from version to version. Instructor lesson plans and the texts they rely upon are riddled with standardized language. Yet the language and structure of respected and authoritative texts are never criticized for the use and reuse of verbiage from edition to edition.

Final Thoughts

It is recommended that where appropriate, the forensic expert use formatted reporting and standardized language for expert reports and testimony. The court system judges the validity of forensic evidence, in part, by the methods used to uncover the evidence. The structure of scientific investigation should naturally continue to the expert's report through standardized language and formatted reporting.

Forensic reporting is not creative writing. The purpose of the expert's report is not to entertain, but to educate his reader. The description of routine procedures should not vary from report to report or from testimony to testimony once the expert has come upon a "lesson plan" that has proven effective.

There is no reason for an expert preparing reports to attempt to create new and inventive ways of describing something that has been described simply, accurately and successfully in previous reports. Thus, the forensic expert should attempt to standardize report language and format especially for investigations where procedures are often repeated.

Special thanks to Suzanne Lange, veteran teacher and consummate educator, for insight into the world of education, and assistance with the editing. Thanks also to Bob Mangine of North American Technical and Forensic Science services for his recommendations on terminology and his experience using formatted reporting.

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Three-Phase Power, Batteries and More

A final look at what locksmiths should know about electricity before diving into electronic access control

By Greg Perry, CML, CPS

This will be the last of my basic electricity articles, which ran throughout 2012, before moving on to electronic access control. I'll discuss some more advanced topics, such as a brief introduction to three-phase power; batteries; and other things that didn't fit elsewhere in these articles.

Three-Phase Power

Most of us only deal with single-phase power, which is what's provided to our homes and most retail businesses. The vast majority of power is generated in three-phase power and provided to most industrial facilities in three-phase power. You may have heard about three-phase and not really understood what it means; hopefully this will shed a little light about what 208/120 and 480/277 means.

The power is generated using a generator with three separate coils 120 degrees apart from each other. Remember that a circle is

360 degrees — 360 divided by 3 is 120. *Figure 1* shows a three-phase waveform. Three single-phase sine waves overlap 120 degrees off from each other to show the three phases.

What enters your house is called single-phase, but it's a little confusing, since two of the phases are actually used. This sounds as though 208/120 goes into a house — possible but unlikely in most places. The transmission voltage comes as a straight three-phase, and the voltage to ground is not used in the primary of the transformer. Two of the phases go into the transformer and become 240 single-phase with a 120v center tap. Ideally, all three phases will have the same amount of power being used on each phase.

The transformers are wired or built in two ways: delta and wye.

Wye. A wye connection has three coils, or branches, from a single hub, commonly 208 volts *(Figure 2)*. Because the phases aren't identical, the measured voltages across two of the coil ends won't be doubled or the same as it would be with single-phase. In a wye-connected three-phase circuit with each phase being 120 volts, the measured voltage between any two of the phases will be 208.

"Three-phase power is far more efficient for motors or inductive loads. It's also a better way to transmit power over long distances."

This might not seem to make sense, if you recall how transformers operate *(Keynotes, March 2012, "Down to the Wire," p. 18):* They either step up or step down an AC voltage. Take a step-down transformer with 120 volts in on the primary side that might have 1000 coils. If you have 100 coils on the secondary side, the output would be 12 volts. If you tapped in at 50 coils, the voltage would be only 6 volts from the center tap to either outer terminal.

Your inclination on the three-phase is the same: Add the two-phase voltages together. But three-phase power is not the same as single-phase. The two phases are 120 degrees out from each other, so it's not the addition of the two voltages, but rather a phase multiplied by 1.732. For the record, the current draw will be the same on both the line and the phase in a wye connection.

Another common Wye configuration is 480/277 volt, used mostly for industrial applications. The 277-volt is often used for lighting. Three-phase wye connections will have four wires that carry current — the three ends of the wye and the center connection, which is grounded and used as the neutral wire.

Delta. The other style of three phase is called delta *(Figure 3)*. Commonly 480 volts, it is drawn with the three windings of the transformer in a triangle. In this connection, the phase and line voltages are the same, but the current is different between the line and phase. Here again, the three-phase connection will throw you a little curve. Because each phase is supplying the power at different intervals, we can multiply the phase current by 1.732 to get the line current.

Three-phase power is far more efficient for motors or inductive loads. It's also a better way to transmit power over long distances. Three-phase motors of the same physical size as a single-phase motor will be about 150% stronger. Three-phase motor loads only need three wires. This is also not counting the earth ground wire required for safety.

Obviously this was a brief explanation on three-phase power. Only trained professional electricians should work on these circuits.

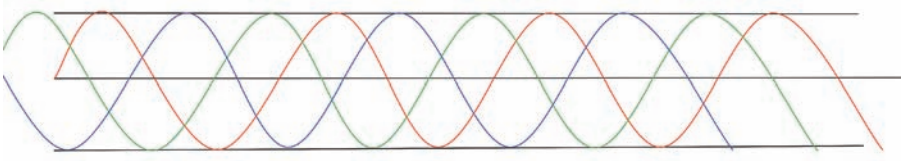


Figure 1. Three-phase power has three separate sine waves. Because of this, the overall power is never at "0" volts.

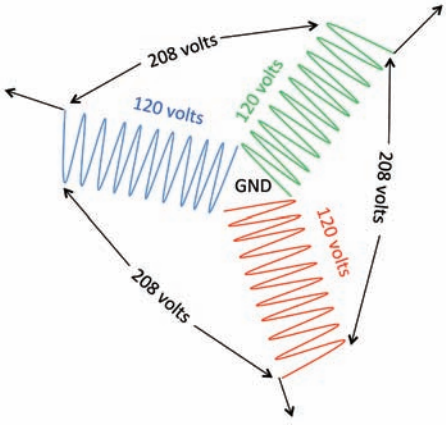


Figure 2. A three-phase wye connection. has three coils, or branches, from a single hub, commonly 208 volts.

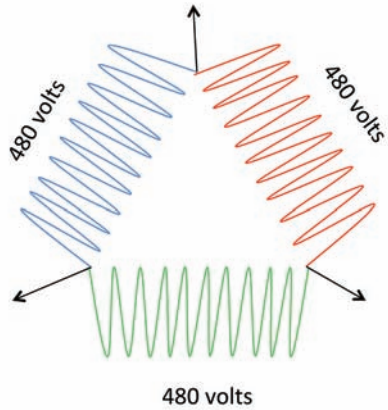


Figure 3. A three-phase delta connection is drawn with the three windings of the transformer in a triangle. In this connection, the phase and line voltages are the same, but the current is different between the line and phase.

Battery Basics

Batteries are made from many materials, from alkaline to zinc. They're all rated for voltage and capacity, or amount of current they can provide for some length of time. Different battery materials generate

different voltages and determine whether they are rechargeable. All batteries have a cathode, the positive side; an anode, the negative side; and an electrolyte medium between them.

Alkaline. Most of us over 45 grew up with the old carbon/zinc batteries that supplied 1.5 volts per cell and always seemed to leak into our flashlights and radios. Today we generally use alkaline batteries, which are zinc/manganese and 1.5 volts per cell. The name "alkaline" comes from the alkaline electrolyte of potassium of hydroxide.

The larger batteries, like "D" cells, have more capacity than, say, an "AA" battery, but the voltage is the same. This means a "D" size will either last longer or can provide more power for something like a motor.

Although we might use alkaline batteries for lots of products, they are seldom used in the EAC/alarm industry.

Lithium. The first style of battery we use is the non-rechargeable lithium batteries. They're used for retaining the memory during a total power loss, and in many wireless devices. Most are 3.8 volts per cell.

A variation of lithium battery is the lithium/ion battery, which is 3.6 volts per cell and rechargeable. Lithium/ion batteries are used in many applications, from cell phones and power tools to cars and iPods.

Sealed lead acid. Sealed lead acid, similar to what's in most of our vehicles, is the most common power supply backup battery. They are rated in both voltage and amp/hours. Each cell in a lead acid battery is about 2.2 volts. This means a 6-volt battery will have three cells wired in series, and a 12-volt battery will have six cells. The bigger the cells, the more capacity in the battery

Bigger batteries do not mean more voltage, only more capacity in amp/hours. For example, an access control panel might draw 500 milliamps or .5 amps, if two maglocks are powered by the control that draw 250 milliamps each — 500 plus two times 250 is 1000 milliamps, or one amp total. A seven-amp/hour battery will power this for seven hours.

> "All batteries have a cathode, the positive side; an anode, the negative side; and an electrolyte medium between them."

If we add four more maglocks, then our total draw increases to two amps. The same 7-amp battery will now only last 3.5 hours, or seven divided by two.

If we need the original panel and two maglocks to last 24 hours, then we need 24 amp/hours of batteries. This can be accomplished with three 8-amp/hour batteries, for a total of 24 amp/hours; or with four 7-amp/hour batteries wired in parallel, for a total of 28 amp/hours. The second option is probably better since it will give you a little cushion.

Just make sure your panel will support the charging capacity. If the panel can't support the amount of current or can't supply the charging capacity, then an additional power supply may be needed.

Battery calculations should be done on every installation. They can be simple like the one above or much more complicated when dealing with a system like a fire alarm. Common battery sizes in our industry are 1.2, 4 or 5, 7 or 8, and 18 amp/hour capacities.

Odds and Ends

Computer terms. Access control and alarm panels are dedicated computers. Many of the same parts and terms are used with panels.

All panels will have a CPU or processor to accept input and control the output. Basic operating instructions are written into the processor in the ROM (read only memory) at the factory. Specific things like codes, times and other instructions can be stored in the RAM (random access memory), or on an EEPROM (more on EEPROM later).

Storing the info in the RAM generally requires a small lithium battery to maintain the memory when the panel is not powered. RAM memory is volatile, meaning without power, the information is lost. Storing the information in the RAM can be a problem if the panel loses power and the memory battery is dead.

The alternative is to store the information in a non-volatile PROM (programmable ROM), EPROM (erasable PROM) or EEPROM (electrically erasable PROM). PROMs are programmed but cannot be changed, while EPROMs can be reprogrammed with special equipment. More common in our world is the EEPROM, which is a bit like a miniature computer hard drive; information such as access codes or times can be changed electrically.

AC voltage. I may have given the impression in previous articles that peak voltage is what's measured by most meters and the listed actual voltage. This is not true. 120 volts AC is actually 170 volts to the peak, and the RMS (root mean squared) voltage, or effective voltage, is what your meter measures.

The way to find this is multiply the peak voltage times .707 to get the effective voltage. The reason the voltages are not the same is because AC voltage is constantly changing. The sine wave goes from 0 to 170 volts positive, back down to 0, then 170 volts negative and back to 0. This means the effective voltage is less than the 170, or actually 120 volts.

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

The World of Japanese Locksmiths

A look at the locksmithing profession in the land of the rising sun.

By Yoshio Suzuki, CRL

I have 42 years of experience as a locksmith in Japan, my home country, but I've been playing with locks since I was 7 years old. Although I am ALOA's international director, I know that many locksmiths have more experience than I do. That said, I'm honored to be writing for *Keynotes*.

What many people may not know is that the lock bolt was originally a handmade device created in ancient times in Japan. As for doors, many sliding doors were seen in ancient Japan. Back then, the door didn't really provide security, as the people in the neighborhood watched out for each other.

In Japan, the structure of buildings began changing during the high-growth era following World War II. When collective housing and what are now called apartments began increasing in number, and people began favoring these dwellings over houses, keys became popular. Also, the form of doors changed. Although wooden fittings had been in use for a long time, steel sashes and aluminum sashes increased in number.

Interestingly, around 2004, lock picking peaked as a problem, one that caused considerable damage. The target of these lock picks was often disk tumbler locks. Many locksmiths knew how to open these kinds of locks, and the information fell into the wrong hands. An important lesson: Don't provide the general public with the tools and information that we as locksmiths use to do our jobs.

Thankfully, in 2005 Japan passed a law prohibiting the possession of "special unlocking tools," such as a driver and bar. As a result, the rate of incidence of invasions has decreased in recent years. This decrease was also due, at least in part, to the efforts of lock manufacturers, who introduced CP locks, or Crime Prevention locks.

Lock systems have increased in popularity in recent years, as have electric locks. In the case of the latter, the locksmith's role is installation and maintenance.

Many Japanese locksmiths tend to do residential work, although there are, of course, plenty of cars, safes, etc., in Japan. It seems that only a limited number of locksmiths in Japan do automotive or safe and vault work. According to some estimates, there are about 3,000 locksmiths, who work for about 500 companies.

Japanese Organizations

Today, there are about 100 Japanese members of ALOA, with about 60 people participating in the Japan chapter of ALOA.

Moreover, Japan has an organization called the National Police Agency, which was approved by Japan's prime minister. I appoint the chairman of the board of directors of this organization, which has about 1,000 members.

In many ways, the locksmith industry in Japan is similar to that of America, although some people don't believe this. Given the similarities, it's in our best interests to cooperate and share information with each other.

Besides the aforementioned groups, there are many Japanese organizations that related to security. Again, sharing information among these groups is important and beneficial. That's one of the reasons I'm grateful for my position with ALOA, which allows me to share information with others throughout the world, including Asia — at the South Korean chapter, the Hong Kong chapter, and an ALOA Asia meeting held in May 2011. This event involved many others, including Tim Chow of Shanghai.

Membership of Japanese locksmiths in ALOA is increasing, and I hope that it continues to do so, as ALOA is the world's leading locksmith organization. With events such as upcoming the ALOA Latino convention, ALOA will take on an even more important role on the international stage, helping provide an exchange of information and a means of networking for locksmiths around the globe.

Yoshio Suzuki, CRL, is ALOA's international director. You can reach him at intdirector@aloa.org.

The store is well stocked, with up to 100 safes on the floor at any time. "The reason we've been successful is we can do a little bit of everything," says Craig Smothers, CML.

An Oasis in the Desert

Valley Lock & Safe provides the Palm Springs area with friendly service, whatever the locksmithing need.

By Haley Shapley

One of Craig Smothers' brightest employees at Valley Lock & Safe doesn't like to read. "When he goes out to a brand-new installation on a door, he opens the box and throws the instructions out of the way, then starts opening all the parts because he can solve puzzles," Smothers says.

But when a copy of *Keynotes* came in the mail addressed to him, it got him to turn the pages. "This is awesome; this is what it's about," says Smothers, CML, who has signed up everyone in his shop for an ALOA membership. "I'm hoping that this brings the level of our store up a notch or two; I know it will."

Valley Lock & Safe is located in the country club community of Cathedral City, Calif., in the Coachella Valley. It was founded back in 1977 by Bruce Nemec, CML, who is now semi-retired but still serves as a partner in the company.

Nemec took a correspondence course through The Locksmithing Institute — "an instructor would send a lock, he'd put it together in a bag and mail it back; it's a crazy way to start," Smothers marvels — then began working a local swap meet every weekend, cutting keys and handing out business cards. He also joined ALOA and took every class he could at the conventions.

Today, the business has grown from those humble beginnings to a full-service shop with 12 employees and expertise in residential, commercial, industrial, automotive, electronic access control, safes and more.

They watch the trends in the marketplace and react to those, beefing up expertise in certain areas when there's more of a need. The store is well stocked, with up to 100 safes on the floor at any time. "The reason we've been successful is we can do a little bit of everything," Smothers says. "We never say no unless we have to say no."

A Basis of Respect

Smothers had set out to go into forestry after graduating from Cal Poly, but when it was difficult to find work, he went back to the hardware and lumber industry he'd been involved with since high school. That's when he decided he wanted to pursue being a full-time locksmith, cutting his teeth at a mom-and-pop shop in Morro Bay, Calif. He joined Valley Lock in 1994 and later became CFO.

"Bruce told me years ago when we were making transitions and he selected me to take over his business: 'I picked you to take this over not because you're a good locksmith — because trust me, you're not — but because you raised six kids and now you're going to have a shop full of kids again,' " Smothers recalls with a laugh.

And just as families are built on respect for one another, Smothers fosters that in his shop. "When I do interviews and bring someone in new, one of the first things I will tell them is it doesn't matter to me if they're one of the best locksmith technicians around, what matters to me is you respect everyone here," Smothers says. "Everyone has their own gifts and talents, and we respect each other for that."

Valley Lock & Safe was founded in 1977 by Bruce Nemec, CML, who is now semi-retired but still serves as a partner in the company.

Although the economy made the past few years difficult, Smothers' priority was keeping everyone on the payroll. "I didn't want to have to let anybody go; I knew we'd start getting busy again and would need everyone," he says. "We struggled through and kept everybody. Some days we cleaned the store and washed trucks and rearranged the storeroom, but we kept everyone."

Valley Lock & Safe is a full-service shop with 12 employees and expertise in residential, commercial, industrial, automotive, electronic access control, safes and more.

At Valley Lock, they prefer to train their own technicians as apprentices, who come to the shop from a variety of backgrounds. Those eclectic experiences allow for outside-the-box thinking and productive collaborations. "One of our locksmiths may go out on a job, and a trainee who's never done it before may say, 'What about doing it this way?' We stop and look and say, 'You're right,' " Smothers says. "We don't believe we're the only ones who know how to do something; we have no problem trying something new or throwing another trick in our arsenal."

A Win-Win Situation

This no-ego approach to teamwork also lends itself well to great customer service, which Valley Lock emphasizes. "We have had so many people tell us that they used us because of the way we answered the phone or responded to them when we were out," Smothers says. "We'll always communicate with our customers. If we happen to be running a little late, we always call; if we make a mistake at a job, we return at their convenience. It's always about them, not about us."

Nemec's philosophy for whatever they're doing, whether cutting a key in the shop or out on a job, is that it needs to be a win-win situation —customers needs to feel like they got value for the money spent, and the shop needs to make a dollar.

One of Smothers' favorite parts of his work is striking this balance and being able to troubleshoot for someone else. "People don't call a locksmith because they're thrilled to call a locksmith," he says. "When we leave, everyone's smiling; they're glad they called our store. If you can go in, solve a problem and leave as friends, that's the main thing that I've always tried to do."

While Smothers has a lot to take care of running a busy shop, his main objective every day is to honor Nemec and the course he set the company on. "This business really is a legacy of how Bruce started cutting keys at a swap meet and grew it into a 2,400-square-foot store with 12 employees and eight vehicles, all because he treated each customer like he wanted to be treated," he says. "Our goal is to continue that."

Haley Shapley is a freelance writer who covers topics ranging from business and travel to health, lifestyle and retail.

It's Not Just for Kids Anymore

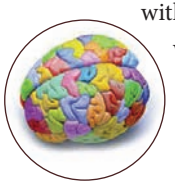
Lending color to your locksmith tools can increase productivity and performance — and help you see the color of money.

By William M. Lynk, CML, CPS

Cotton candy, Lifesavers, Popsicles, M&Ms and Skittles — what fun. But are hot hues and cool colors only for kids?

Actually, within the adult world, color is used systematically in electrical wires, medical files, stop lights, pill organizers, school books, telephone cables, underground utility locator flags, weather evacuation codes, Homeland Security status indicators — and the list goes on.

There's a simple reason why colors are so omnipresent in industry, education, nature, science, security and other areas: association. The human mind quickly associates colors with objects or actions. That's why on the beaches of San Diego, colored signs appear at small intervals, alerting swimmers who veer off course. Haven't most of us remembered through association the color of a parking level sign, along with a letter or number, so we can return to our car? Color does the trick.



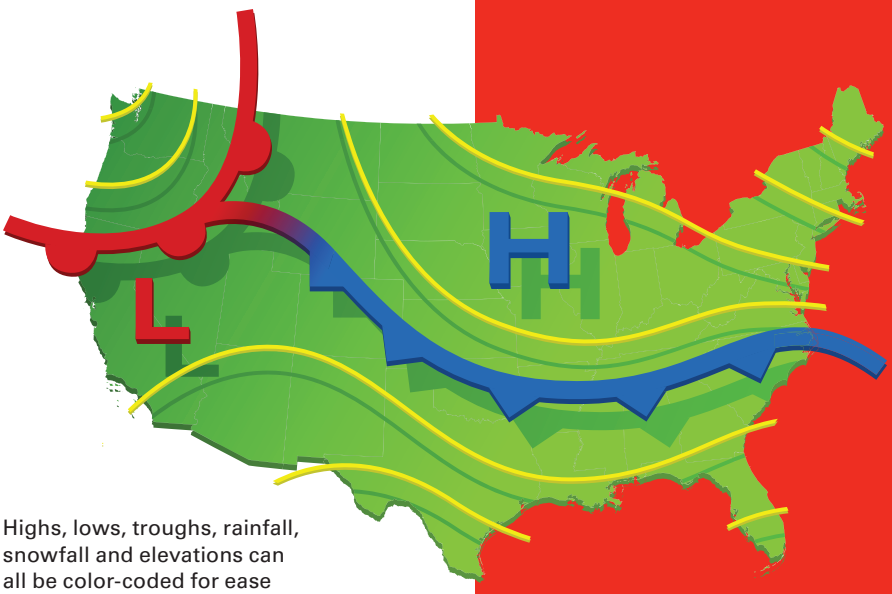
As locksmiths, have we been missing the boat regarding the value and significance of color-coding within our segment of the security industry? To answer that question, I'll take a cursory look at the world around us to see how color-coding adds to safety, accuracy and efficiency. Then I'll show how color is increasingly used by security professionals — from color-coded wires in electronic access devices to colored key blanks; from colorized bottom tumbler pins to hex wrenches; and in a revolutionary color-coded SFIC system.

Color-Coding Examples

What influence does color usage and color-coding have on you? If you haven't noticed, quite a bit.

When you drive on a busy street, you instinctively stop at a red light; you notice when it's turning yellow, and slow down (or speed up); and you proceed when you see green. Imagine if there were no light colors, just words: stop, caution and go. Letters are abstract symbols that have to be pieced together to form a word, and then it has to be interpreted to give us some sort of contextual meaning. How effective would that be?

Some of the earliest examples of color-



Highs, lows, troughs, rainfall, snowfall and elevations can all be color-coded for ease of interpretation. Color adds impact that text or black-and-white images can't convey.

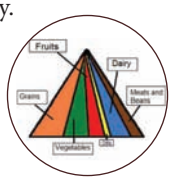
"Color-coding aids in efficiency and accuracy, promoting increased production."

Color My World

We all marvel at the splendor of a rainbow at the end of a summer downpour, but are you aware that it is the basis for color-coding systems? Because of the way sunlight is refracted through our atmosphere, the spectrum of visible light is organized from red to violet. Remember from grade school science lessons the guy named Roy G. Biv? His fictitious name spells out the order of the colors within the rainbow: **r**ed, **o**range, **y**ellow, **g**reen, **b**lue, **i**ndigo and **v**iolet. People have creatively taken what nature invented and used this color pattern in many useful ways. — *WML*

Color-coding adds a welcome layer of safety in a fast-paced and hurried world. Even hospital emergency codes often incorporate colors, such as the widely used and well-known "Code Blue" indicating a cardiac arrest.

coding still in use today came from long-distance communication by use of colored flags. A color-code scheme for this type of communication was created by the United Kingdom, where a red flag signifies danger and a white flag signifies safety.



In America, the USDA has spent millions of dollars promoting the food pyramid, which is divided into color sections related to food consumption. Municipalities have also become color-conscious for the efficiency of public workers, as well as for the easy display of leaf collection routes for residents, for example.

Meanwhile, large corporations to small business have realized the safety of color-coding and have implemented it into their processes. For instance, bar code labels are colorized to aid in efficiency. Tanks of gases such as helium, oxygen, carbon dioxide, as well as many other toxic gases have been labeled, not only with text, but also by painting the containers various colors. What's more, color-coded shipping placards have been used for decades to indicate specific chemical cargo moving across the transportation system. Other examples:

- Artillery shells and other munitions are color-coded according to their pyrotechnic contents.
- Cleaning companies color-code the floor plans of buildings so that employees know which chemical treatments to use in specific rooms and areas.
- Devices within audio, computer and information technology environs use color-coding. As you know, red and black go well for speaker connections, where as RCA cables tend to use red, white and yellow, though green, blue and orange are also used.

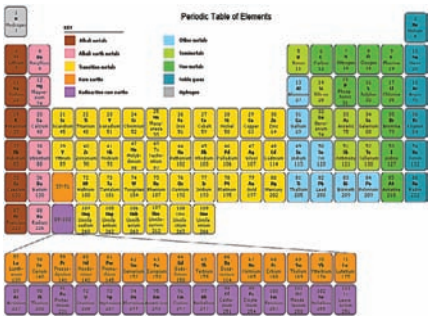
Learning Your Colors

Educators not only teach children colors, but they also use color-coding to make it easier for children and adults to function effectively. Kids learn to quickly identify which music book is their grade level based on color. Publishers coordinate the grade-level colors with corresponding charts, transparencies, supplemental books and hands-on materials to match.

Piano teachers accomplish repeated octaves on the keyboard by differentiating the seven note names with different colors. Relationships can easily be established, and some say that perhaps there is a "color" tone-image associated to each note of the scale. Russian composer Alexander Scriabin professed that to be true in the late nineteenth century.

Other learning examples:

- On the periodic table of elements, the elements are grouped together based on various similarities — but they all look the same on the chart. Color-coding may be one of the few sane ways to make sense of this large group of analogous boxes.



- Color-coding helps students learn regions of the United States by assigning specific colors to associated groups of states.
- For children and adults with physical challenges such as vision or motor-skill impairment, special computer keyboards have been designed. The keys are color-coded based on vowels, consonants, numerals, symbols and functions.
- And what teacher, school student or locksmith student has not used colored highlighters to support varied learning styles?

Think about color, color-coding and color usage, especially in the spectrum order, and children often pop into mind. Perhaps they know something we do not about the basic nature of color? Or maybe we have just forgotten?

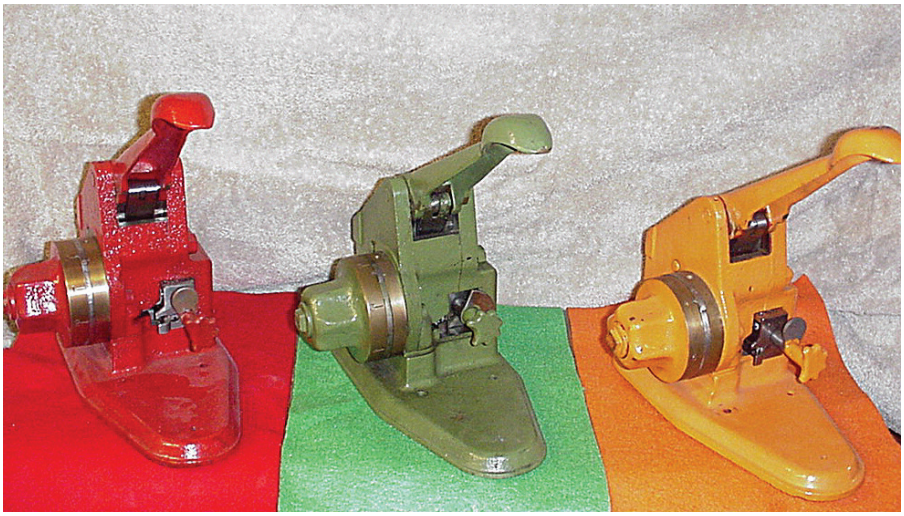
Taking the "Ouch" Out of Color-Coding

For years, doctors have had the foresight to strategically organize their patients' charts using color-coded labels. Why are color-coded files more efficient than an alphabetic filing system? Because the use of color is a visual marker that restricts the area of a search for a specific medical record. A chart that's misfiled can easily be spotted, even from a distance.

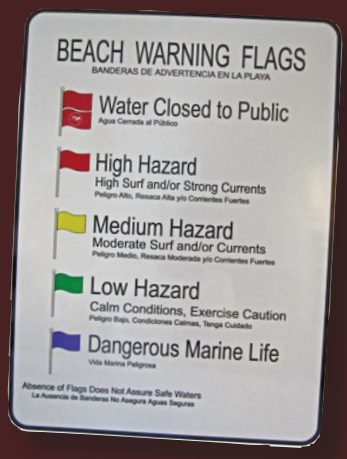
A specific color is assigned to represent each letter of the alphabet — that is, for the patient's last name. Sometimes a color label is used to indicate a year, so it is visually easy to discern when a patient was last in to see the doctor.

Perhaps even more important within the medical field is the need to quickly identify a particular medication. Colors and shapes play into safety, accuracy and efficiency. Medications taken in conjunction with others can be assigned a daily color in a plastic pill case to lesson confusion or mix-ups.

This concept is especially vital when



BEST Lock Company colorized their original A2 (red), A3 (green) and A4 (orange) combinators.



Some beaches use color-coded flags to indicate hazards and conditions vital for the swimmer's safety.

The colorful automotive key blanks of the 1970s have been resurrected.

"(With BiLock Systems, the) white key is usually the control key, or top master, and the remaining keys can serve as masters, change keys or special use keys. The unique feature here is that all keys come with a color head; it's not an add-on option."

parents have to administer medications to children. Parents often worry about measuring the dose incorrectly when administering fever medication to their children. To preempt this problem, color-coded kits are provided to parents, including a color-coded wall chart, a color-coded syringe, an adapter for medicine bottles, and instructions for administering over-the-counter fever medicines.

Security and Colors Go Hand-in-Hand

Color-coding is also invaluable within the security field. Familiar to most adults is the now-obsolete Homeland Security Threat Level Warnings, color-coded from a low green to a high red. The National Terrorism Advisory System (NTAS) replaces the Homeland Security Advisory System that was in place since 2002. The NTAS will include information specific to the particular credible threat, will not use a color-coded scale and will announce threats via Washington, D.C. The reason for this change was that the color-coded system never went below orange (high risk), so the need for color differentiations was diminished.

Locksmiths in particular have been introduced to some interesting color-coded options, as far back as the 1970s. Do you remember the colorful, lightweight aluminum automotive key blanks? Even though their durability was poor, they have been resurrected. One website touts that car owners like them because they accentuate their car keys amidst a ring of nondescript keys. Car enthusiasts just think they're cool. Volkswagen has introduced colored key fobs to sustain every VW owner's color whim, allowing them to "unlock the rainbow."

BiLock High Security Systems tapped into the use of color-coding many years ago. The white key is usually the control key, or top master, and the remaining keys can serve as masters, change keys or special use keys. The unique feature here is that all keys come with a color head; it's not an add-on option. This allows the end-user to be creative in the effective use of key colors in their facility. Mul-T-Lock also used the concept with colored inserts on the bow of the key. Differentiation is a valuable asset to end-users.

Jet Keys has recently announced a line of STAT keys. These keys are used primarily for emergency use, when, as Jet says, "Every second counts." The blanks are stamped with either "Emergency" and are coated in red, or say "Electric" and are in blue. They are available in Sargent, BEST, Schlage, Yale and Corbin Russwin, and are available in various common keyways.

Locksmiths who work with access control are familiar with color-coded indicators for various states of access presented in software programs. A quick glance can reveal important changes that might not be readily evident with text-only displays.

For many years LAB has offered color-

coded pins for locksmiths. This concept was originated by Zipf Lock in Columbus, Ohio. One advantage of the colored pin is seeing when a pin has accidentally fallen into an adjacent pocket. When time is money, pinning up a cylinder incorrectly can cost valuable time. This alleviates that situation. In some instances, it's not advisable to use colored bottom pins in cylinders. Scoping a plug containing colored bottom pins could allow for decoding, although for many interior master keyed applications, this is not a concern.

Tooling Around in Color

The tool marketplace has seen fit to colorize a number of tools, from screwdrivers and screw tips to wrenches and hex key sets.

Quickly going for a specific color eliminates having to search and squint for a small, engraved fraction somewhere on the side of the tool. Remember, color-coding aids in efficiency and accuracy, promoting increased production.

BEST Lock Company has used color-coding for decades in a basic way: They colorized their original A2, A3 and A4 combinators (BEST's term for a key punch). However, their current punches are not colorized. Their vintage standard A2 punch was painted red, A3 (discontinued) was green, and A4 was orange. They did not extend this color system to pins, key gauges or other tools within their system, though Ultra Security did.

The QU-I.C.-Key System for small-format interchangeable cores was invented in the late 1990s by Ultra Security. Their goal was simple: to color code the entire combinating process, from beginning to end, so that even a child could efficiently and effectively pin a core with the color-coded tools and punch the keys accurately the first time.

The QU-I.C.-Key is a color-coded wheel (in the order of the rainbow) that manually turns to show the pin stacks and the key combination all at the same time. Pin stacks are oriented as they are in the pin chambers. Red (to the far left) represents the #1 chamber to the back of the core. Subsequently, orange yellow, green, blue violet and grey (for a 7-pin core) resides to the right.

When loading the core, the QU-I.C.-Load tool is used, complementing the same color arrangement. When ejecting a pin stack from the bottom of the core, it is also color-designated to match. No more wondering which chamber to eject by counting or guessing.

When the core is combinated and it's time to test the keys, one can use the QU-I.C.-Test tool to make sure the core is properly combinated before capping. The spring-loaded trumpet pins put gentle pressure on the core as it sits in the QU-I.C.-Load tool for testing. Many of us know the frustration of capping a core and then discovering the correctly cut key does not work. In that instance, a single pin chamber can be removed to the top of the QU-I.C.-Test tool for temporary adjustment.

Without the color-coded system, it's easy to mistake one chamber for another. Color-coding makes it easy, accurate and faster. Incidentally, the Ultra Security owner's elementary school children combinate with zero mistakes — shouldn't we all?

Utilities of Color

Most urban areas across the country implement a well-established system of color-coded underground utility locator flags. Before any residential or commercial property owner would ever think of digging, the ground below must be marked for underground utilities, such as water, sewer, gas, electric, communications, etc.

If you have ever had your landline telephone service interrupted, it may have been due to a dig where an accidental cut through the underground cable occurred. Twenty-five wires are each wrapped within a larger conduit, and all are all color-coded individually with a combination of a base color and a tracer stripe color.

Whether underground, in a basement or sublevel area, many industrial and commercial buildings have seen fit to color-code the piping system: gas, electrical wiring, communication wiring, hot water, cold water, warm air, cool air, cold air return, sewer, etc. This has proven invaluable in terms of both efficient servicing and for safety reasons. — *WML*

For many years LAB has offered color-coded pins for locksmiths. One advantage of the colored pin is seeing when a pin has accidentally fallen into an adjacent pocket.

Without the color-coded system, it's easy to mistake one chamber for another. Here, all seven chambers look essentially the same, as do the smaller ejector holes on the bottom of the core.

Get Me Color-Coded!

I have a few simple suggestions for locksmiths who now see the value in color-coding. Aside from purchasing the keys and tools already mentioned, here are some simple steps that you can take to begin getting colorized.

Blank boards. Section off your key blank board with colored masking tape, electrical tape or artist's tape. For example, use red to divide for automotive blanks, green for residential, blue for commercial, etc.

Special keys. Acquire discount nail polish in a variety of bright colors (red, orange, yellow, blue, green, purple, pink) and paint the heads of special keys for commercial or institutional customers. School principals are grateful when their school master key is red, differentiating it from the dozens of other identically shaped keys on their ring.

Key tags. Colored key tags can be indispensable for identifying keys related to a master key system. You could easily tag all keys under one master as yellow, blue under another master and red under yet another, and so on. Aside from marking room assignments on the white paper tag, you can also quickly assess what part of the master key system is present by merely seeing the key tag.

Files. Keep your customers records easily accessible by using colored file folders. Assign certain types of customers to a color, such as red for retail, yellow for residential, blue for schools, green for commercial, etc.

Additional ideas. Don't forget to use Post-it note tags to mark special pages in key blank catalogs or with distributor catalogs, especially the pages you use most often. Highlight in color the sections of your invoices to show customers their savings, or to emphasize past due amounts. Remember, the eye goes directly to a color on a black-and-white piece of paper.

You've now come to the end of the rainbow, metaphorically speaking, and the pot of gold awaits you. Inside that pot you'll find three things: safety, accuracy and efficiency. Color-coding can help to get you there. All you have to do is use it.

Carry on using text as a major source of communication, and continue to prosper monochromatically as you have to date. But by incorporating color-coding into your business, you can still have your cake and eat it too. And, in a colorful way, to be sure.

William M. Lynk, CML, CPS, has been a locksmith since 1975 and is the owner of www.ICLSglobal.com. Bill is an IC specialist, an industry author, the subject matter expert on IC for ALOA, and an ALOA ACE instructor, teaching classes on interchangeable cores and master keying across the country. He has originated SFIC Technical Manuals for both national and international lock manufacturers, and maintains a working relationship with the major lock and security manufacturers throughout the world.

OIL & WATER & Kaba Peaks

Converting cylinders to this key control system can bring together otherwise incompatible elements.

By Don OShall, CPL, CMIL, CMKS

One of the difficult situations for institutional locksmiths occurs when there's a need for a master key system for a building or group of buildings, but they do not have compatible locksets installed — and there's not a sufficient budget in place to easily change that.

One solution, of course, is to piecemeal the system, changing a part of it as time permits. However, if there is keying money and not lock replacement budget available, the difference in these (between typically Grade 1 locksets and mere cylinders) is substantial enough to make it impractical.

I'll use a typical mid-sized university as an example, basing this article on their situation without naming them. Some of their locks use older Corbin or large diameter (jumbo) mortise and rim cylinders, using a master ring principle. Others use Corbin knobs originally from the '60s and '70s, or standard Corbin mortise or rim cylinders. And still others use the Best small-format interchangeable core.

In fact, someone erred, and one building slipped through the cracks with SARGENT full-size interchangeable core locks in it. Had enough? Nope. One office was done on the Schlage full-size interchangeable core.

Oil and water, correct? These systems do not mix.

Or do they?

Kaba designed cores and replacement cylinders that — while all using the standard SFIC type cut depths (A2 or A4) — replace many different manufacturers' product lines.

"You could hand someone a key for a single lock in one building, and it would be the exact duplicate of the great grand master in another. Worse yet, you would have no easy way of knowing it."

Key Advantages

By converting the cylinders to the Kaba Peaks cores, several things happen. First, although several sets of bottom pins will be required, all of the locks can be keyed into one key system. Second, extra security is provided for the Schlage full-size core locks. Third, there's a much simpler way of identifying the bittings, and knowing when duplicate bittings have been used.

Avoid duplicates. Why is the third advantage important? Under the old Corbin, some key bittings were read from bow to tip; some were read from tip to bow; and some had six possible depths, while others had ten. Further, some of them used zero as a shallow depth, and some used it as a deep cut, similar to the SARGENT numbering system.

Thus, there could actually be five differently numbered keys, looking at the bitting combination, that are all the same key. You could hand someone a key for a single lock in one building, and it would be the exact duplicate of the great grand master in another. Worse yet, you would have no easy way of knowing it because the bitting list does not appear to be the same key.

If one sees a bitting of 13795 and another of 35421, one might reasonably assume they were far apart. Yet they're the same set of cuts — just different numbering systems and reversed reading as the manufacturer created them.

By using Peaks products instead, the cut patterns are on a different keyway from the old Corbin, and they're clearly identifiable.

Get extra security. What about the second advantage listed? Schlage full-size cores have a distinct disadvantage in institutional work in that the control key must exist, and that cuts within it aren't unique to the control function but also can interchange with other bittings.

This poses no problem under most circumstances, because the master key bitting is simply used so there's no interchange. But what about that myriad of NMK cores? In large institutional key systems, it's rare not to require much higher security on some areas and to have even the top master key unable to operate them.

For example, in a hospital, you might have a narcotics storage room. In a university, one might find a sufficiently powerful electromagnet — and accidental exposure to it when it's turned on could actually pull the body's naturally occurring metals through your flesh, risking death.

Both of these examples represent real threats that must be accommodated. But in a Schlage full-size core system, there's no way to make an NMK combination reliably. You could simply use a random parity bitting, but who's to say that the fifteen thousandths of an inch difference in a non-parity position will be sufficient to prevent interchange?

Choose a bitting from elsewhere in the system, and you risk interchange or at best

have a single position of distinction. However, when using the Kaba cores to replace FSIC (LFIC) products, you get a control key that does not interchange.

All of this makes the first advantage extremely important. But how is it possible to put them all into one system? Because Kaba designed cores and replacement cylinders that — while all using the standard SFIC type cut depths (A2 or A4) — replace many different manufacturers' product lines.

"You could simply use a random parity bitting, but who's to say that the fifteen thousandths of an inch difference in a non-parity position will be sufficient to prevent interchange?"

Replacing Products

The revised products are typically limited to a six-pin product using .140 spacing, so there are some limitations. Otherwise, the specially designed cores yield a functionality incomparable to almost any other product.

The models are simple but use special pin kits for some replacement styles. When replacing Yale removable cores, use the 6240 Peaks core and standard SFIC pins. When replacing Medeco 6300 series cores, use the 6340 and standard SFIC pins. However, for most other replacements, special pins are required due to a change in the plug diameter from the standard SFIC product to these cores.

When replacing Corbin-Russwin cores, use the 6140 Kaba core. To replace SARGENT 6300, use the 6540. For either of these products, use the J series bottom pins for A2 depths, and the K series for A4 depths. For the upper pins (control pins, master pins and drivers), use the standard SFIC product pins.

When replacing Schlage FSIC (large-format core), use the 6440. Unfortunately, you would use the 0-9X series bottom pins and the 2-19W upper pins for the A2 depths, but the pins aren't manufactured to use A4 depths for the Schlage LFIC product replacement.

When replacing standard knob and lever locksets, use the 3400 series Kaba Peaks. They make a model similar to the Arrow/SARGENT Grade 2 product, which uses the standard SFIC pins, and a model with the screw cap similar to that of most lever cylinders, which uses the J bottom pins for A2 or the K for A4, similar to the SARGENT, Medeco and Yale discussed earlier. The Grade 2 replacement product is available with various tailpieces to fit a wide variety of grade two products.

Calculating the pinning requirements is similar to any SFIC pinning calculations you've done previously, with a stack height of 23 on A2, or a stack height of 14 on the A4.

By understanding this product line, you can consolidate virtually any hodgepodge arrangement of locking products into a single system and provide higher security for most areas.

Kaba's Peak line helps you consolidate a hodgepodge arrangement of locking products into a single system.

Don OShall, CPL, CMIL, CMKS, is the author of many books for locksmiths, including Institutional Locksmith Shop Management (available in the ALOA Bookstore). He has taught the trade for more than 40 years. He has run an exceptionally well-regarded institutional lock shop for more than 25 years.

"If The Key Fits..."

A step-by-step explanation of the key-making process.

By Tony Wiersielis, CPL

In a previous article (*Keynotes, October 2012, "Removing Knob Cylinders," p. 36-38),* I explained how to remove certain knob cylinders without a key. I also mentioned that you might want to make a key for the existing combination, and I briefly went over how to it. In this article, I'll show you the key-making process in more detail and explain why you'd want to do it.

The "Why"

In an old correspondence course, they used a short story to explain why they taught this method. A man is on vacation, far from home, and is called back to work for a few days. He realizes he left his house keys in his hotel room and calls a locksmith to let him in. Since his son is at college and may come home while he's back on vacation, he asks the locksmith to make him a key without rekeying the locks.

It's often a good idea to make key when you have a strong suspicion that other locks you're working on might be keyed alike. This happened to me when a customer bought a duplex apartment with five doors. He moved from another state and called me when he showed up with a rental truck and no keys. In that case, I took off one of the deadbolts, fitted a key and took off all the knobs with

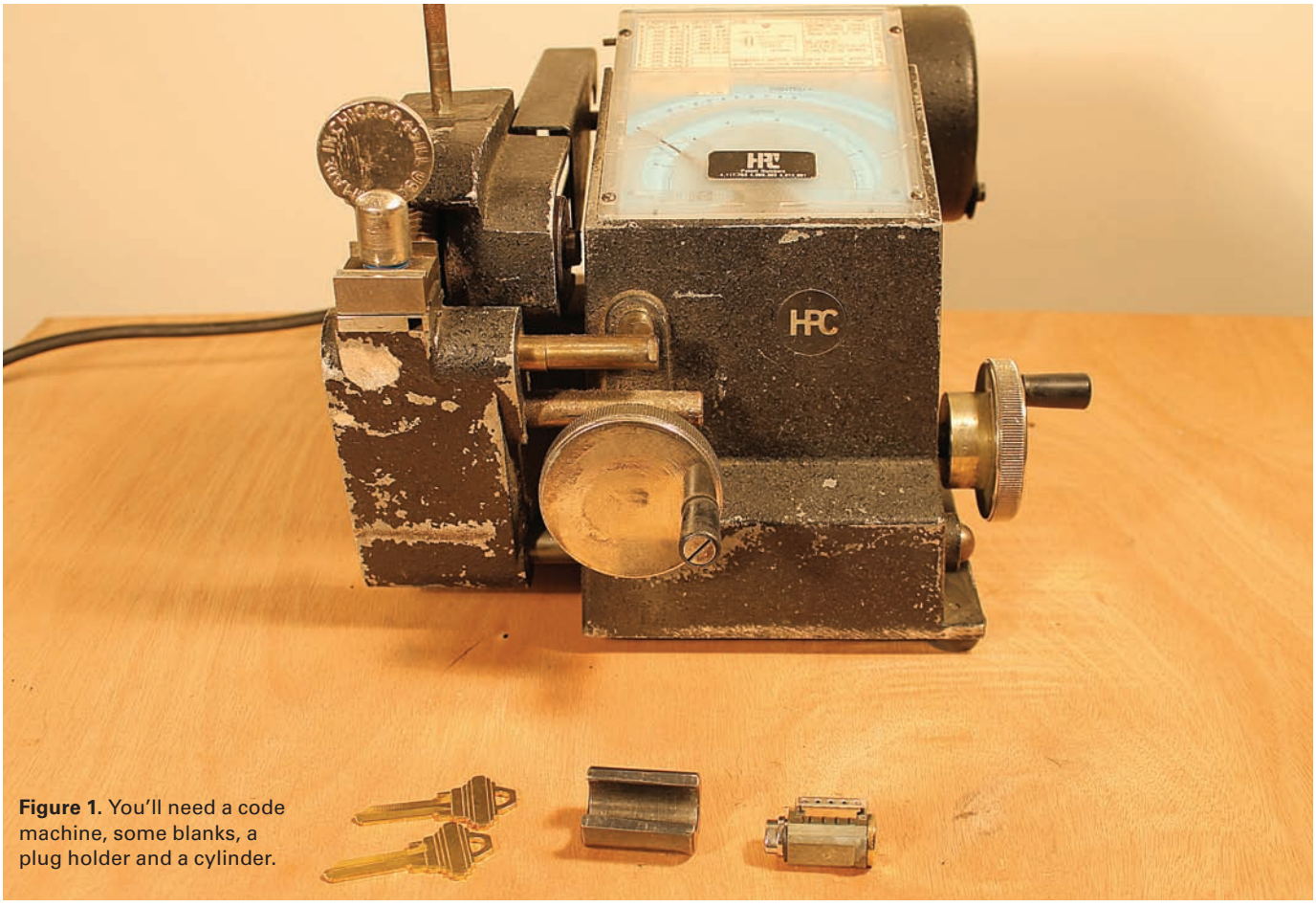


Figure 1. You'll need a code machine, some blanks, a plug holder and a cylinder.

ease. I've also had a suite of empty offices to rekey and no existing keys. I was fortunate that many of the knobs were keyed alike.

As you can tell from these examples, I use this mostly as a way to make my job easier, not because the customer asks for it. This is one of those things that you may not use often, but when you need it, it's a huge help. It's not difficult to do once you learn it, and it doesn't take much time to do.

Having said that, there is one situation you should be cautious of: If someone who's not a regular customer brings a lock into your shop and asks you to fit a key to it, it should raise a red flag. You don't know if the person is a crooked employee trying to get a key for his bosses business. Since you're not at the job site, there really isn't any way to check. You can ask for ID or call his boss, and if he suddenly changes his mind and leaves, you know there was an issue. Use your judgment.

Step By Step

To do the job, you'll need a code machine, some blanks, a plug holder and a cylinder *(see Figure 1)*. If you don't have a code machine, you could use space and depth keys (more about this in another article), or file the key by hand. A machine, no matter the brand, is the best way to do it.

First, shim the cylinder and insert the plug into the holder. From this moment on, be extremely careful not to spill the pins. If you do, you will have lost the combination. Keep this in the forefront of your mind as you proceed.

Gently insert the blank into the plug — don't do it quickly. You don't want the pins to jump out of the plug. I usually place my finger over the top of the plug to prevent this. *Figure 2* shows the result.

Notice the pins sticking out of the top of the plug. The blade of the key blank is usually a "0" cut or very close to it. This being so, you know that none of the cuts on the old key were "0" cuts, because all of the pins

"If someone who's not a regular customer brings a lock into your shop and asks you to fit a key to it, it should raise a red flag."

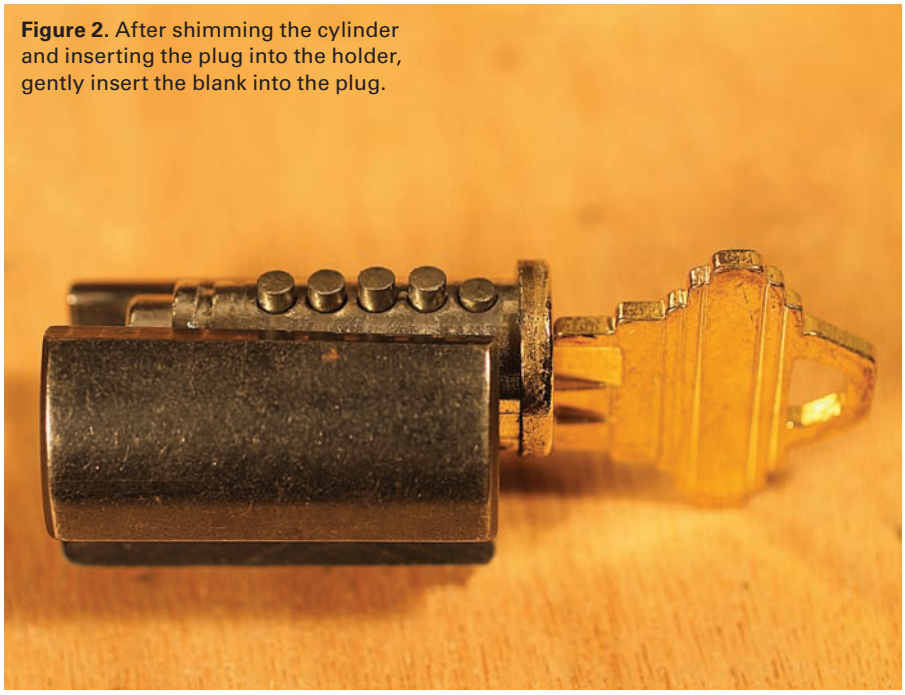


Figure 2. After shimming the cylinder and inserting the plug into the holder, gently insert the blank into the plug.

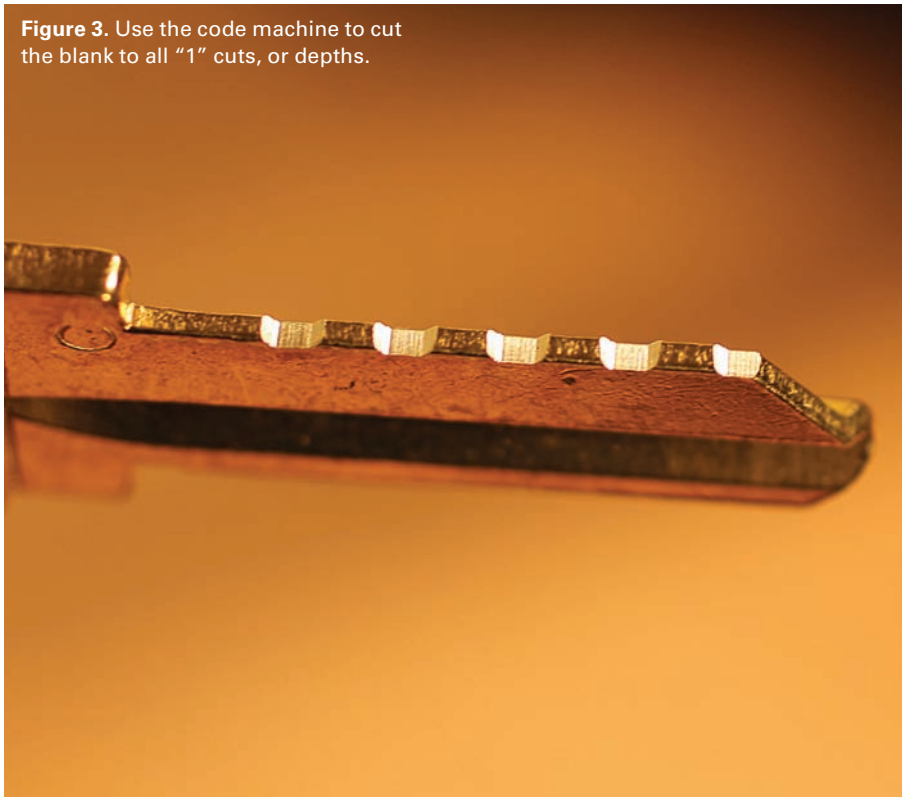


Figure 3. Use the code machine to cut the blank to all "1" cuts, or depths.

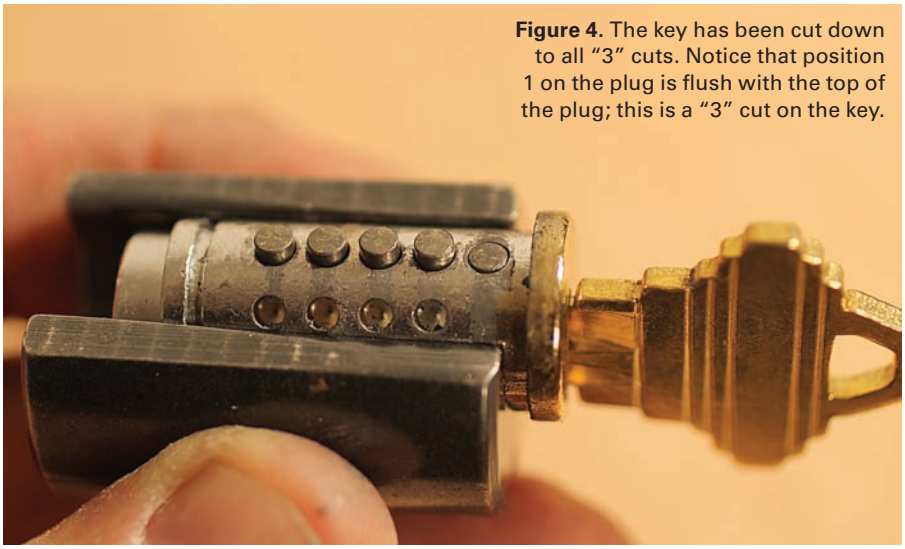


Figure 4. The key has been cut down to all "3" cuts. Notice that position 1 on the plug is flush with the top of the plug; this is a "3" cut on the key.

Plug Holders

When rekeying cylinders in good condition, you can hold the plug in your hand while you rekey or fit a key — that's because the keyway millings aren't worn and sloppy. They hold the key in the plug without wobbling up and down.

Still, it's better to use a plug holder for several reasons. This tool holds the plug just like it was in the cylinder. When a key is in an actual cylinder, the bottom of the key rests on the cylinder, and at the least, isn't going to move down. The holder duplicates this, and because the key is stable, you can rekey to a shear line that isn't constantly changing. If you've ever tried to rekey a worn plug, you know what I mean.

Other benefits: The plug holder, in a vise, frees up your other hand. In the accompanying article, I use the plug holder to keep the plug from spilling and messing up the order of the pins. By turning the plug, the pins are less likely to fall out by accident, whether the holder is being held in the hand or in a vise. — *TW*

By turning the plug, the pins are less likely to fall out by accident.

are sticking out. If one or more of the pins were flush with the top of the plug, you'd know these were "0" cuts.

Next, use the code machine to cut the blank to all "1" cuts, or depths *(Figure 3)*. Continue doing this until one or more of the pins become flush with the top of the plug. To clarify, if you have no pins flush at "1," then recut the key to all "2" cuts, and so on.

Figure 4 shows the key cut down to all "3" cuts. Position 1 on the plug is flush with the top of the plug, so this is a "3" cut on the key. You might want to write this down in case you drop the plug and spill the pins. At this point, stop cutting position 1 any deeper, and don't touch it again.

Go back to the code machine and cut the remaining cuts to a "4" and try again, and then to "5." In *Figure 5*, positions 4 and 5 on the plug are flush, so these are "5" cuts. You may also notice that positions 2 and 3 are extremely close to being flush. This indicates that positions 2 and 3 are probably "6" cuts, so go back to the machine and cut them.

At this point, you have a completed key, with all pins flush with the top of the plug — and therefore, at the shear line *(Figure 6)*. With a plug holder, test the key by turning it to see if any pins are high *(Figure 7)*. Realize that one thing a plug holder won't tell you is if any pins are slightly low; it will turn anyway. Put the plug back into the cylinder and check it. Now that you have an operating key, you can do whatever you need without going nuts.

It Gets Easier

Once you've done this a few times, you'll be able to skip some steps in the process. You'll develop an eye for how deep to cut the key for each position. When I first inserted the key into the plug, I knew from experience that position 1 was not a "0" or a "1," so I would've immediately cut the key to all "2" cuts. After a while, you'll be able to cut the whole key by eye, although I recommend

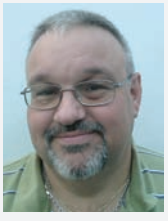
"Once you've done this a few times, you'll be able to skip some steps in the process. You'll develop an eye for how deep to cut the key for each position."

you cut each cut a depth shallow, just in case.

Bear in mind that in real life, the pins will become flush with the top of the plug in no particular order. Our example cylinder started at the first position by chance. You'll also want to take your time deepening the cuts. Pay attention to what positions you don't want to cut. It's easy to start at the first chamber from force of habit and ruin the cut.

A final note: This works well on keyed-alike cylinders, but it might not on master-keyed cylinders. The reason is that with multiple pin segments in multiple chambers, you could shim the cylinder to more than one combination. What you could have is a key that works only the cylinder you're working on — and no others.

If you see master pins in your plug, try making the key anyway. You might get lucky and cut a master key, or a key that isn't a master, but that works the cylinders you need it to. You could also remove whatever master pins you see and cut the key to bottom pins only. It's possible the cylinder was rekeyed and nobody checked for master pins. You never know.



Tony Wiersielis, CPL, CFDI, has more than a quarter century of experience, having worked in most phases of the trade throughout the New York metropolitan area.

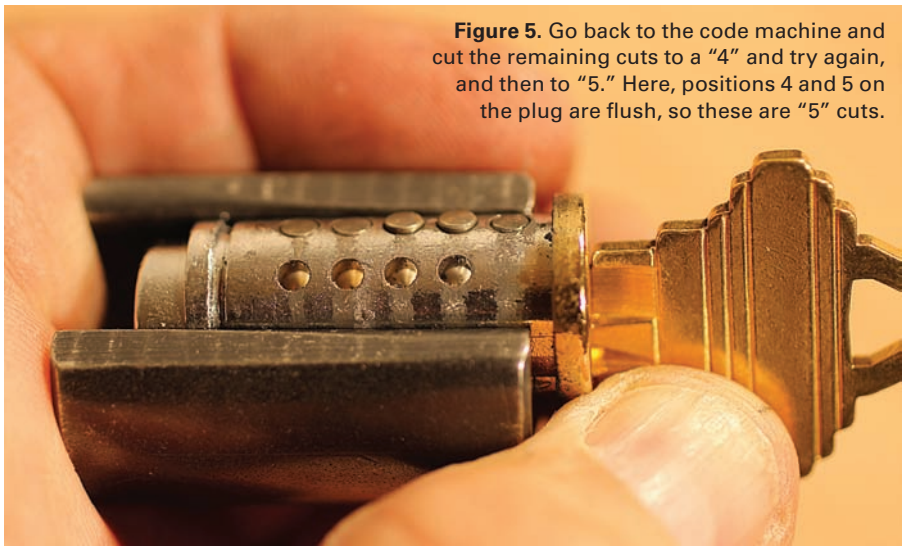


Figure 5. Go back to the code machine and cut the remaining cuts to a "4" and try again, and then to "5." Here, positions 4 and 5 on the plug are flush, so these are "5" cuts.

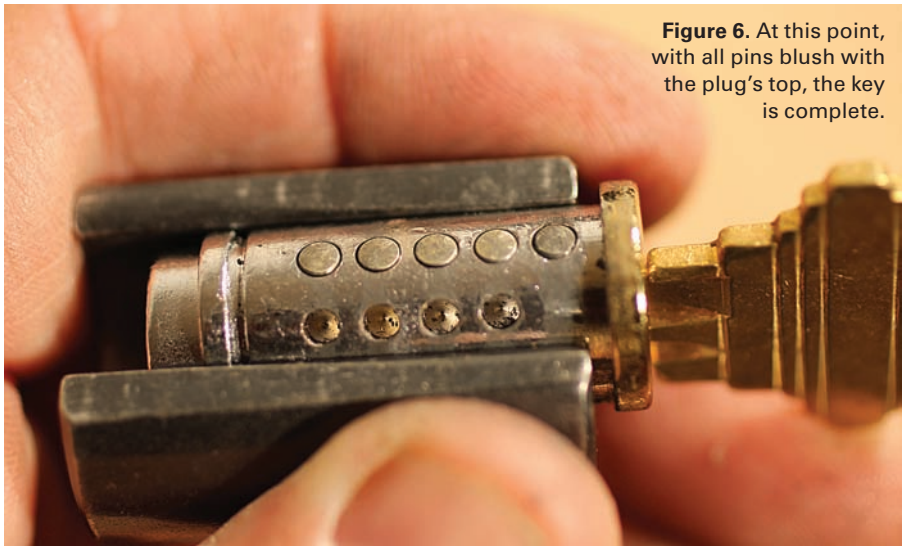


Figure 6. At this point, with all pins blush with the plug's top, the key is complete.

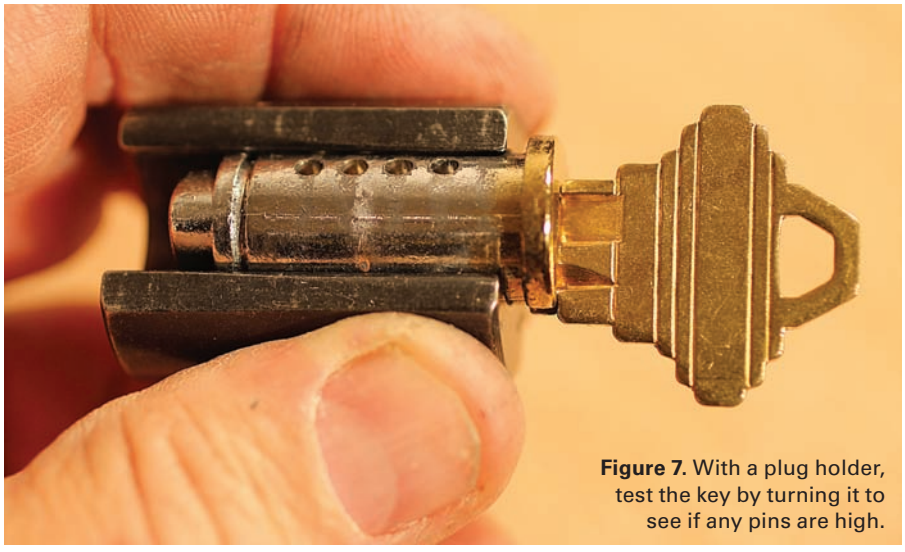


Figure 7. With a plug holder, test the key by turning it to see if any pins are high.

Leasing Commercial Real Estate

Learn how your business can make the most of recovering markets.

By Barry Roberts, Esq.

Real estate markets are recovering in many parts of the country. Even in markets where real estate values and rents have started rising, small business can still find value in commercial office and retail space. Whether you are contemplating opening your first shop, expanding your already existing location, or opening another branch to extend your operations, now is probably a good time to think about finding and negotiating that new commercial space.

Lease Types

There are three basic formats for commercial leases: net, net-net and triple net. Leases almost state these terms outright, but it is important to understand the categories so you can compare apples to apples when looking at several properties with different lease terms. The category is determined by how expenses beyond the base rent are allocated.

A **net lease** means the tenant pays the base rent and some or all of the utilities. This is the simplest and most common lease, and the easiest to value and compare with other leases. Be sure to ask how much to expect incremental expenses to be, so you can figure that into your comparison. Seeing utility bills from previous tenants is helpful, if available.

A net-net lease has the same terms as the net lease above, but the tenant will generally be responsible for some maintenance and replacement expenses, such as replacing the air-conditioning compressor or heating unit, changing the air filter, and likely other similar maintenance items. It is important to get a realistic handle on what these expenses are likely to be in order to compare the true cost of this lease with other properties offered under different terms.

A **triple net lease** means the landlord is merely making the building available, and all expenses associated with the property are on the tenant. Think of this sort of lease as essentially taking on all the responsibilities of ownership without taking title to the property. These responsibilities include insurance and property taxes, plus all maintenance and miscellaneous upkeep expenses. These are usually long-term leases, often spanning 10 years or more.

Best Practices

Here are some practical steps in getting the best lease for your business.

1. Don't stop looking until you find at least two or three places that work. Even if you have in mind the "perfect" shop, seeing multiple locations will often broaden your vision as to what is possible and where the market really is in terms of cost and availability. It will also help you gain clarity as to what features and trade-offs — street traffic, noise, parking issues and access, floor space, foot traffic, neighboring stores, lease terms, ceiling height, etc. — you are and are not willing to compromise.

2. Don't sign any lease until you know the entire expense picture, including maintenance, and have hopefully had an attorney familiar with commercial leases review yours and advise you accordingly.

3. Avoid emotional attachment. The point of a commercial lease is to help your business' bottom line grow. Stay focused that the goal of this lease is to help your business become more profitable. Your calculator and analysis as to how much the location is likely to increase sales should be your primary indicators as to how much you "like" the location.

4. Ask for a copy of the lease — and read it. Every commercial lease is unique. You really don't know what the lessor is actually offering until you see the whole offer spelled out on paper. And yes, you do need to read it. All of it. I know, it's long, maybe really long and awfully dull, but you have to know what it is in it.

Check the terms; do not assume they got it right. Make sure you check the start date, end date, rent, rent escalation and any other special terms are the terms you negotiated for. Once you sign, there's no more "but the agent promised!" On signing, what you agreed to is whatever the contract you signed says, nothing more and nothing less. Can you terminate it? On what notice? Under what circumstances and conditions? Is the contract assignable? Make sure you know what you are getting into.

It is usually worthwhile to have the contract reviewed by a competent business attorney

who has experience reviewing and negotiating commercial leases. Getting a fair, clean and unambiguous contract up front is the key to preventing a complete (read: "expensive") mess down the road when there is a dispute over vague, poorly worded, or incomplete terms.

Remember, it is not enough that you know what you are signing. What matters is that someone else can look at the contract without any explanations at all from you or the landlord and clearly see for himself the same terms and conditions that both lessee and lessor think they have agreed to. Very few commercial contracts meet this very basic standard.

5. Create a comparables analysis ("comps") that compares the properties you are researching. A spreadsheet program is useful for this sort of analysis, but even an organized, hand-written comparison will do. If you're doing it by hand, using a separate sheet of paper or index card for each property will keep things organized.

The basics include leased square footage, unit lease price, incremental expenses (including maintenance), lease term required (how many years), plus whatever notes you have regarding the advantages and disadvantages of each property. The notes will come in handy later if you need a tiebreaker when you're making the final decision.

6. Know what you're talking about. Most commercial leases contain an alphabet soup of abbreviations and shorthand. For example, most leases use the term "CAM," which stands for common area maintenance. You should be allocated a percentage of the CAM you are responsible for based on the percentage of the building you are renting. Be sure the percentage is based upon the size of the building and does not vary based on how much of the building is rented. Understand that this maintenance is an expense being assigned to you that is explicit in the contract, but isn't listed in terms of a dollar amount. Know what you're actually agreeing to. Negotiating a monthly or yearly cap on CAM expenses is prudent.

Remember: There are no dumb questions in negotiating a lease. And the first step in successful negotiation is knowing what you are talking about. If you don't understand something in the lease, ask.

7. Carefully read the sections defining your responsibility for CAM and capital expenditures. The CAM section is often confusing. It is also a section where the landlord may attempt to shift certain expenses onto you that most tenants would view as unreasonable. Be sure you are not paying for such CAM expenses as the landlord's marketing expenses, legal fees associated with negotiating other leases, administration fees of more than 3%, paying for benefits for the landlord's employees, build-out costs for other lease units, and other expenses that have little to do with you and your business.

Another section to be sure you understand is your responsibility for capital expenditures. The term "capital expenditures" refers to major structural expenditures of the property like the roof, electrical and plumbing systems, HVAC and other major repairs/replacements. Again, the exact terms of this provision are negotiable.

For example, if the lease says you are responsible for HVAC repair and replacement, suggest to the landlord that the term "replacement" be taken out, and that your repair obligation be limited to a maintenance contract, maybe two times per year. It would be a good idea to insert a clause stating a specific yearly maximum dollar amount up to which you could be responsible for all general repairs.

8. Negotiate. You may be surprised just how open your prospective landlord is to negotiating terms. Everyone wants to get the base lease price down, but remember that many other items, like ongoing maintenance, build-out, insurance, maintenance, trash removal, the notice requirement for termination of lease, late fees and other seemingly peripheral items can have just as great an impact on your bottom line — and they may be more palatable to the landlord to modify.

Real Estate Glossary

Here are some common commercial real estate terms you are likely to come across.

Gross lease: A property lease whereby the landlord pays for all property costs usually included in ownership. These include costs such as utilities, taxes, and maintenance.

Triple net lease (also known as an NNN lease): A property lease whereby the lessee (you) pays a fixed rental charge and expenses on the property, including maintenance.

Tenant improvements: These are improvements done on the interior of a space, which can be paid for by the landlord and/or the tenant, depending on the lease.

Usable area: The part of an office or a building floor that can be occupied, permanent wall to permanent wall.

Rentable area: The usable area within the office, including shared areas of the floor and building such as lobbies, corridors, closets, and restrooms.

Common area maintenance (CAM): This is the additional rent charged to the tenant to maintain the common areas of the property. These are the areas that are available for use by more than one person and are usually owned by all the tenants.

Percentage lease: A lease in which the costs are based on the percentage of the sales volume made at the property.

Letter of intent: An informal agreement between landlord and lessee indicating their intent to move forward with negotiations.

Latent defect: A fault in the property that could not have been revealed through reasonable inspection before the agreement.

Work letter: An agreement between a landlord and a tenant regarding all the issues related to the build-out (construction) of the interior of a space.

One item to consider is asking for a "CAM stop lease." This is especially relevant in a triple net lease format. A CAM stop lease means that you only pay for the increase in CAM and taxes above your initial lease year (usually called the "base year"). While the landlord may increase your base rental rate, it takes away the unknown from the amount you will pay.

The Americans with Disabilities Act says that all businesses that are open to the public or that employ more than 15 people must have premises that are accessible to disabled people. If relevant to your business, make sure your lease is clear regarding who pays for any needed modifications, like adding a ramp or widening a doorway to accommodate wheelchairs.

Another item is assignability. This may or may not be important to you now, but that may change in the future. If the lease prohibits you from assigning your lease, then selling your business, for example, would be very hard because the new owner would either have to open the business he just bought at a different location (because you can not transfer the lease to the new owner unless it is assignable). Or, he would be compelled to negotiate a brand new lease with your current landlord, who clearly recognizes the value to the buyer of continuing to run his new business at the same location where you ran it.

Perhaps the most important item to negotiate is a termination clause. Whether your business grows so fast that you need a bigger space sooner than you planned, or whether things go south and you can not keep up with the rent, negotiating favorable exit terms is once of the most critical protections you can have in limiting your financial risk if you need to close down. Do not negotiate a lease planning on the best-case scenario.

9. Get your business form in place before you sign. Be sure to have your filed Articles of Incorporation or Organization (some states, like Texas, call these documents Certificates of Incorporation) back from the Secretary of State, and verify that your business entity is properly registered before you sign.

If you personally are the lessee and for whatever reason there is a legal dispute, breach of contract, or you fail to pay the rent, you personally are liable. If your corporation is the lessee and you sign in your capacity as an officer of your corporation, LLC or other limited liability business entity, your financial risk in the deal is limited to whatever your entity owns — meaning that your house, car, retirement and bank accounts, and everything else that you personally own can not be seized to pay off your business' debts.

Landlords typically demand some kind of personal guarantee when leasing to a small limited liability entity (like a corporation). Again, this term is negotiable. Consider offering a guaranty for only a portion of the lease term — say half. Or try for a guaranty that lasts only three to six months after you terminate rather than the remainder of the lease term. Keeping the dollar amount for which you could be personally liable for your business' debts to a minimum is absolutely critical in terms of your ability to move on in the event that the contract comes under dispute.

Opening a new location is one of the most exciting and potentially lucrative moves any locksmith can make. Be sure the lease you negotiate takes your and your business' best interest into account, no matter what eventualities the future may hold.

If you have questions or concerns about a lease you are negotiating or are currently in, or regarding other commercial real estate or business matters, please give us a call.

The Law Offices of Barry Roberts has offices in Washington, D.C. and Palm Beach Gardens, Florida, and serves as general counsel for ALOA. It focuses its practice on assisting business owners and business associations. Barry can be reached at his Washington, D.C., office at (202) 609-7390; at (561) 472-0828 in Palm Beach Gardens, FL; or at barryrlaw@aol.com anywhere.

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New Year, New Start

Here are the education department's resolutions to you — all of which we intend to keep.

By Jim Hancock, CML, CMST

Let me first wish everyone a happy New Year. Hopefully you all celebrated responsibly and made it home safely, so you can start listing all those resolutions you'll probably break by March. Here at the education department of the newly formed ALOA Security Professionals Association Inc., which we will still refer to as ALOA, we have made a few resolutions ourselves regarding training and certifications.

Last year, we took a relatively unused classroom and substantially increased the number of classes offered in Dallas. While some of these classes were extremely successful, there were others that we had to reschedule or in some cases cancel due to limited registrations. While we can blame this on the economy or the glut of classes offered elsewhere, the truth is that it was simply too difficult and put too much pressure on businesses to take the time off to travel to Dallas and take these classes.

They were scheduled as a rule from Monday through Friday, which meant most people had to leave home on Sunday and return the following Saturday, thereby losing an entire week of work and home time. And of course, the economy did play a part, in that it was difficult for hard-working business owners and employees to spend money not only on the class but also on travel and lodging.

Our first resolution for 2013 is to help ease some of these burdens, if possible, by offering more classes on weekends. This will help mitigate the lost time, we hope,

and make these classes more appealing and easier to attend.

We're also looking at lowering the prices for the classes. It's a double-edged sword, because it causes us to set a hard cap on the minimum number of attendees needed to provide the class. But perhaps a lower price will equal more attendance.

We'll also be your one-stop shop for the class by arranging the lowest airfare and reserving lodging at our host hotel. You simply fill out the registration for the class with the pertinent info, and we'll do the rest. Once the arrangements have been made, we'll email confirmations to you. This eliminates one of the huge headaches usually associated with traveling to take these classes: sitting on the computer or phone to make these arrangements yourself.

Keep watching *Keynotes* and checking the ALOA website for class schedules.

Other Resolutions

On certifications, we resolve that 2013 is the year that "certified hardware installer" (CHI) is added to the credentials. We have the space and the training doors in place, and are going to schedule the classes for the first or second quarter in 2013. This is not only exciting because it's a certification that has long been needed, but also because it will be our first certification that requires a hands-on and written test to achieve.

We're also close to having the PRP testing procedures brought into the 21st century in the delivery of the test, as well as its grading. This will make the test-taking experience easier for the test taker, and the administration of the test and results easier for the education department — all while maintaining the integrity of the test. More to come on this exciting change as the process develops.

Finally, from all of us here at the ALOA education department, we have resolved that 2013 will be the year that any time you, the membership of ALOA, has any need to interact with us, it will be a refreshing change from the past. It will be an experience that is helpful and pleasant, and will remind you why you're a member of this great association.

Again, happy New Year, one and all — and let's all have a blessed 2013.

Jim Hancock, CML, CMST, ALOA's education manager, began his locksmithing career at the age of eight in his grandfather's lock shop in Gulfport, Mississippi. He has worked in every aspect of the business, from shop tech to mobile tech to operations management. In 2003 and 2009, he was presented with the ALOA ACE Award as Instructor of the Year. You can reach him at jim@aloa.org or (214) 819-9733.

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Phone: 847-402-4879
www.allstate.com

Allstate Roadside Services
Phone: 469-734-6632
www.allstateroadsideservices.com

Chubb A UTC Fire & Security Co
Phone: 405-787-8444
www.chubbfs.com

KEY PRO WEB L.L.C.
Phone: 210-386-9912
www.keypro.com

Lockmasters Security Institute
Phone: 859-887-9633

Vocalize Mobile
Phone: 877-698-6225x703
www.vocalizemobile.com

WEBLEASE USA/Button Mobile
Phone: 952-745-4105
webleaseusa.com

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WANT TO BUY

Handheld key cutter for Schlage Wafer Lock keys
Contact Karen at waferlocks@comcast.net <3/13>

FOR SALE

Locksmith Company
West Dallas Area, 249k, 817-343-1588 <2/13>

I.C. cores and Capping machine.
Overstock 47 yale 6 pin Y1 I/C cyls-26D original part # 1210-E1R-626 $20 each
I.C. core capping press machine, with accessories, Part # A1CAP1 $350.00
Email or Call Tryaction@comcast.net (703)-928-5585 <2/13>

Locksmith and safe business for sale.
Established in 1913. Three-generation family-owned business for sale in Providence, RI. Owner wants to retire. A huge opportunity for an ambitious person to further advance an already successful business and make a nice living. Call Mr. Wolferseder at (401) 331-3013. <1/13>

EMPLOYMENT

Help Wanted
We are a well established Safe and Locksmith Company located in Downtown, Los Angeles, California and is currently in need of one (1) person to join our workforce. We are looking for the following:
One (1) - Outside Sales Person to handle Safe sales
Interested persons can call - (213)627-0422 or email applications to info@firstsecuritysafe.com. <3/13>

Experienced Locksmith Wanted:
Experience required in commercial, residential, safe hardware installation and service. Experience with auto key systems and service preferred. Health benefits and retirement plan available. Ownership interest is available to those qualified and interested. Applicants must be able to meet Illinois locksmith licensing/employment requirements. Applicants please forward resume to Elgin Key & Lock Co, 201 N. Spring St. Elgin, IL 60120, or email j.forbes@elginkey.com, subject line: RESUME. <3/13>

Wanted, Experienced Locksmith
Full Service Locksmith & Safe Company located in Bristol, TN & VA. Seeks a full time service technician proficient in all phases of lock, safe and automotive work as well as some low voltage access control. Will supply Van and equipment to do jobs. Many opportunities for overtime. Must be able to secure a license for Tennessee as well as Virginia and have a clean driving record. Paid Holidays and some benefits offered.

If interested, send resume to Tri-Cities Lock & Safe 4403 Hwy 11W Blountville, TN 37617 , e-mail at bristollock@yahoo.com or call 423-279-0234 <2/13>

Classified advertising space is provided free of charge to ALOA members and for a fee of $2 per word, with a $40 minimum for nonmembers. Classified ads may be used to advertise used merchandise and overstocked items for sale,"wanted to buy" items, business opportunities, employment opportunities/positions wanted and the like. Members or nonmembers wishing to advertise services or new merchandise for sale may purchase a "Commercial Classified Ad" for a fee of $4 per word with a minimum of $100.

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

AD INDEX

Advertiser	Ad Location	Web Site	Phone Number
A & B Safe Corporation	page 39	www.a-bsafecorp.com	(800) 253-1267
Allstate Insurance Company	inside front cover	www.allstate.com	(847) 551-2181
ALOA	pages 12, 41,44	www.aloa.org	(214) 819-9733
Big Red Safe Locks	page 39	www.bigredsafelocks.com	(877) 423-8073
CCL Security Products	page 7	www.cclsecurity.com	(800) 733-8588
ClearStar	page 43	www.clearstar.com/aloa	
Fort Knox	page 39	www.ftknox.com	(800) 821-5216
H L Flake Co.	inside back cover	www.hlflake.com	(800) 231-4105
Hollon Safe	page 38	www.hollonsafe.com	(888) 455-2337
Intralock	page 38	www.intralocktools.com	(562) 699-0060
Jet Hardware Mfg. Co.	back cover	www.jetkeys.com	(718) 257-9600
John Koons Locksmiths	page 39	www.koonslocksmiths.com	(800) 282-8458
Key Craze	page 9	www.keycraze.com	(800) 490-7539
LockPicks	page 39	www.lockpicks.com	(800) Key-Blank
McDonald Dash	page 39	www.mcdonalddash.com	(800) 238-7541
Professional Business Products	page 39	www.pbp2000.com	(800) 355-6322
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Turn 10 Wholesale	page 1, 43	www.turnten.com	(800) 848-9790
U.S. Lock Corp.	page 38	www.uslock.com	(800) 925-5000
Wenxing	page 39	www.shopkeymachines.com	(800) Key-Blank

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* Payments based on 60-month financing agreement, shorter financing terms also available. $1.00 end-of-finance buy-out option. 2 months down payment required. For further information call JET Hardware (855) 266-5539 or Sally Donatiello: (856) 505-4192