

The National Locksmith®



We Burgle
And Open Two
Burglary
Resistant
Safes!

page 40



**NEW HONDA ACCORD
SERVICE PROCEDURES**

page 28

**15 MINUTE SAFE INSTALLATIONS
THAT MAKE MONEY**

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HARRY MILLER—AN INTERVIEW

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HOT!! NEW 1996 FORD CODES

page 122

plus
ASIS
Bonus
Supplement



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On The Cover

In burglarly fashion, Dale bashes and smashes a Gardall CV1311 Closet Vault and an AMSEC BF1512 burglary/fire rated safe - and then shows how a professional opens them.



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Commentary

I have known Bill Reed for about fifteen years now, and for each and every one of those years he has been a competitor of mine. But he has also been someone whom I have respected and whose commitment to locksmithing has always impressed me. To be sure, Bill and I clashed from time to time in the past. When two people with strong opinions sit on opposite sides of the fence that can happen.

However, I am very pleased to announce that Bill Reed has certainly *not* disappeared from the locksmith industry. He is alive and very well in Dallas, Texas, despite having to stop publication of his magazine. Bill's *Reporter* really did change the face of locksmith magazines. His quality was so good that it helped us make great investments and improvements in *The National Locksmith*. For a long time now we have printed codes monthly, we print more articles and more pages with more color and better graphics. Much of that is due to the competition from Bill's excellent magazine.

Together, Bill and I have made arrangements to transfer the entire subscription list of the *Reporter* over to *The National Locksmith*. Bill was very concerned that his subscribers would be able to receive all the magazines they had paid for. Therefore, we will be serving his readers with this magazine for the balance of their subscription. After that, we will invite each and every one of them to renew their subscription with us.

For those of you who are afraid you will miss hearing from Bill, there is some good news in all of this. Guess who our newest monthly columnist is? Bill Reed, of course! That's right...Bill's popular Reed Report column will now appear monthly in the pages of *The National Locksmith* and we are very pleased to welcome him to our family. See Bill's first column in this issue on page 104.

While *The National Locksmith* has *not* merged with the *Reporter*, we are happy to be able to continue to provide their former subscribers with a fine locksmith publication. We hope that they will enjoy our magazine as much as they did Bill's.

What does the future hold for us? I think the future will be very bright indeed. *The National Locksmith* is certainly going to continue to forge ahead, giving you hotter articles on the latest news affecting the locksmith. You will notice that the look of the magazine will continue to improve every month, and you'll see us using more and more color design.

Let me extend very warm greetings to each and every one of our readers, old and new. Together, we will do great things for locksmithing!

Marc Goldberg



Marc Goldberg
Editor/Publisher

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thousands of
new readers and
a new columnist
to our family*

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S E P T E M B E R 1 9 9 5

Letters

The National Locksmith is interested in your view. We do reserve the right to edit for clarity and length.

Anti-Trust Locksmiths

In the real estate industry, we are warned to avoid anti-trust practices. Whenever I listed a property, a seller would ask, "How much commission do you charge?" I would simply state the fee without explanations like, "This is normal for the industry," or "that's the going rate for this area," etc.

Saying anything like this would be a violation of antitrust laws.

Another thing that is anti-trust is blackball listings that are taken by discount brokerage firms (Help-U-Sell, Why USA).

Why am I discussing this? Several auto repair shops for one particular brand of car were found guilty of price fixing in our area (anti-trust). They all got busted and fined \$10,000 each.

In a previous letter, a writer complained about locksmiths who prostitute themselves by offering low low prices. His statement in the eyes of the FTC would be considered an

anti-trust statement. Does this mean he engages in anti-trust practices? No, but the FTC does watch this.

Why did I get on this subject? There are locksmiths who discount their services. This angers other locksmiths who charge more for identical services.

I don't like it either, but that's capitalism. You'll never stop the price cutters. You can complain all you want, but be careful not to cross the anti-trust line. Don't meet with your local locksmiths and try to establish the same prices across the board, you might find yourself in hot water.

If your price cutting competitor attempts to purchase a part from you at the price you offer to the general public and you refuse to sell it to him, or jack up the price, you will be guilty of anti-trust practices and could encounter stiff penalties.

When you state you are ethical in your practices, and don't prostitute yourself by giving kickbacks (which may be considered rebates by some) you could be making an anti-trust statement. Then, where are your ethics? Food for thought

Chris Colvin
E Mail

Burglars Not Licensed

I've read D.F. Mowery's letter about legislation / locksmiths. ("Viewpoint," June 1995, *The National Locksmith*, page 10.)

In California there are 10,000 locksmiths with only 2,000 of them licensed to practice.

The meaning of the original licensing was to keep the "Burglars" from being locksmiths. That narrow-



minded thinking caused a major headache here in California.

The "Burglars" still aren't licensed and a door of control has been opened to allow the alarm industry to move us out of the Access Control Business. The original locksmith's intentions backfired.

There will always be those who ignore the laws, but there might not always be "licensed" locksmiths if our trade is legislated away.

Electronics is the future. We need to protect it from future regulation.

Art Kambeitz
California

More On Doors

You are to be commended for the recent article on "Door Systems." It was very educational, and indicates how much there is to be learned in this business.

The article on hinges was also helpful to me as a working locksmith.

It would help me, and I suppose others, if you would do a good article

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Attn: Editor

on aluminum store door pivots. What are the various makes? Where do we obtain them? How they are replaced. Diagnosis of door problems due to worn pivots. Cost of various pivots.
*Dana Prouty
Massachusetts*

Book For Non Locksmiths

I just received in the mail a magazine called, "Things You Never Knew Existed."

In this magazine is an add for a book titled "Locksmithing" by Joseph E. Bathien, I think. (Last name hard to read).

The write up for this book, that sells for \$24.95, is as follows: How to pick locks and decode them. Make Master keys, install, repair and service locks. Describes tools, equipment, supplies. Fourteen chapters of illustrated self-instruction lessons for the handy man, home owner, carpenter, mechanic, hardware dealer . . . even for those interested in a lucrative occupation. Many tricks of the trade for house locks, padlocks, car locks, etc.

The ad boasts that the book contains 374 pages, and it's the best book on locksmithing they have seen!

I thought you would like to know how some people think how easy it is to become a locksmith.

I myself am new to locksmithing but am not so bold to think that buying one book can make me a master locksmith!!!

Oh, by the way, they show the cover of the book and it says on it "From Apprentice to Master."

I am an apprentice, but am working on getting my certification.

*Zannil
E Mail*

Uncommon Lock Catalog

I happened across a business that supports the fire fighting industry by supplying locks and hardware specifically for fire/ambulance apparatus. But, I have discovered that their catalog carries many types of uncommon and hard-to-find locks and locking hardware that is a great source for purchasing or even lock identification. You can benefit from the catalog even if you don't work on fire engines, rescue trucks, or ambulances. For a free catalog

contact: The Paul Moore Co., Norcross, GA (800) 882-4744, fax (404) 840-0481. Or, Cincinnati, OH (800) 543-1677, FAX (513) 870-9771. Ask for Standard Catalog #94.

*Les Moyer
E Mail*

Hardware Store VATS Keys

Well, my hardware store now carries the single sided VATS keys. Stocking only one of each. Selling price \$18.95 and supplied by Cole. The key reader is purchased with bonus bucks from Cole. Just a sign of the times.

*Norm Zurawski
E Mail*

Tar And Feather

Meant to say this in my first E Mail, but forgot. It's been a long, hot day. That character (he should not even be referred to as a 'smith) who photocopied Autosmart, and then was selling copies out of his trunk should have his name mentioned in your column for everyone to see.

As a member of ALOA, since 1987, I am outraged and disgusted that a member of ALOA, supposedly 'smiths who have scruples, would stoop so low to make a penny. This guy should not even be a locksmith, because obviously he has larceny in his heart. This is not the first shenanigan this character has pulled, I bet, and certainly it won't be his last.

This guy should be drummed out of ALOA, and his name should be mentioned in your next issue. This character is a disgrace to every hardworking 'smith, especially to those 'smiths who belong to ALOA.

After all, we belong to ALOA to gain some credibility. Regards.

*Bill Paroby
New Jersey*

Editor's Note:

As the writer of this letter says, the guy who copied the Autosmart—mentioned in June's commentary—IS out of ALOA now. I filed a grievance against him with the ethics committee and he resigned rather than face the committee. I would rather not mention his name. I won't stoop to his level.

Picking Scabs

I was in the security office dispatch area this week and I noticed a tow truck pull up in front. Now that is not an uncommon event at our university, but what this scab was doing was. He was handing out pens and scratch pads with his company logo on them to the department clerk and dispatcher. I stood there and listened to him tell the dispatcher that if he mentioned his phone number to any one who called in with a locked car he would give that person a \$5 discount if they told him they were from our school.

After about five minutes I asked him if he was a bonded and licensed locksmith. He said, No, he didn't have to be to open up cars. I called him a scab and told him I wouldn't recommend any tow companies for a lockout job.

I asked what he was going to do when he screwed up someone's door locks and they had to be replaced. He said he would hire a local locksmith to replace them and his insurance would pay his bill.

He still didn't know who I was, so he asked what business it was of

IMPORTANT INFORMATION ON BONDING!

You are invited to purchase a \$5000 Bond Certificate and Bond Card along with your subscription. For a \$8.00 charge you will receive a Certificate and Card personalized with your name.

Previously, we could only Bond the individual subscribing to *The National Locksmith*. Now, however, we are able to Bond any of your employees as well as you, the actual subscriber. These additional personalized Bonds are available at \$15.00 each.

If you already have a Bond, you will receive notice to renew your bond. You will receive this notice in the mail several months before your Bond expires.

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To order bonds, send a sheet with your name, address, city, state, zip and phone number (or that of the person to receive the bond), **include a check or money order** for the appropriate amount, and mail to: *The National Locksmith*, 1533 Burgundy Pkwy., Streamwood, IL 60107.

mine. I politely told him that I was the university locksmith, and that I didn't even do lockouts because even I could possibly do some harm. I have the latest auto tools I can buy, but I only use them for university official vehicles. Ironically we have a police sub station in the same building, but they are not allowed to open cars unless it is a verified emergency, and then only if I am not close enough to handle the job.

I have said all this to reinforce the tremendous amount of conversation concerning local law enforcement and other scabs dipping into our industry. I am sure there is a lot of pro or con. But I see our trade being raped enough by people like those on "alt.locksmithing" that it almost makes me want to go back to being a machinist. But the rewards in that field were never as good to as being a licensed, bonded locksmith, who has paid his dues. Keep up the good work.

*Dick Solomon
E Mail*

Don't Pick Scabs

Regarding Dick Solomon's comments on two truck drivers. Let them kill themselves. We as

locksmiths, a long time ago, gave up trying to compete with tow truck drivers. They usually disconnect a linkage and the local locksmith gets the work. If he doesn't have the proper paperwork to do lockouts, call the state or whoever checks this stuff out. Most tow truck drivers aren't worth your time. Some are good guys and recommend calling a locksmith.

*KMI
E Mail*

Another Scab Response

Regarding Dick Solomon's Scab comments. Don't waste your time chewing out tow truck drivers. Eventually they will get tired of having to pay for repairs or their insurance company will cancel their policy or demand they stop doing lockouts. In any event, the local lock shop will get the repair work and the general public will get wind of the problem and stop calling tow companies for that service. Getting excited over it and confronting them will accomplish nothing.

*Vic Szilard
E Mail*

Schlage C Series Info

I have a request for a article or for the General Security test articles. I have been trying to find out more information about Schlage C series locks. I was intrigued by a fellow locksmith who told me about Schlage's marine locks, but so far all I have found out is it is the C series. I would like to know the materials that it is made of, how it works, how to service it. Basically I just want to know about the lock. Living in the desert we really don't have much of a call for this type of lock, but that doesn't matter, I still want to know. Who knows, I may want to relocate to the Pacific Northwest (Oregon Coast, and yes I do want to.) I'll be reading and watching for the information.

*Donald Martin Oakley
Nevada*

Editor's Note:

Donald, I contacted Schlage and have a service manual on this lock series coming your way. If you have questions about other lock series, simply contact a Schlage distributor or the Schlage representative from your area.

TNL



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VIEWPOINT: Locksmithing Professional - A Definition

My dictionary defines LOCKSMITH in just eight simple, basic words: "Someone that makes and mends keys and locks." Check with your dictionary. I feel quite sure the words will be similarly basic. True though it is, we know all too well that there is far, far more to being a locksmith than what those few words say.

PROFESSIONAL is defined: "adj. of or relating to a profession // showing a sound workman's command // engaging in some activity as a remunerated occupation."

The public may not always recognize us as professional locksmiths that have invested a substantial amount of time and money to make ourselves available to meet their security needs and help with emergency problems that are lock associated. Thank God, there are

quite a few national companies that have set up bonding and insurance standards that locksmiths (and other professions) must meet before allowing them to perform work at their locations.

Still, most of our residential, institutional, and business customers, have no clue as to what is required to establish and maintain a locksmithing enterprise. Sadly, some individuals that complete a correspondence course in locksmithing, also underestimate what is required to be a full time owner operator of a successful locksmithing business. I hasten to add that graduates of the many correspondence locksmithing courses have received an excellent background and training in our time honored profession.

Because the livelihood of professional locksmiths depend on

earning a good living by delivering "the most, of the best," most locksmiths are well aware that competition is best at the service level, and not at the price level. Unfortunately, I have seen a large number of beginners start out believing that cut throat pricing will bring in a large volume of business.

Some people associate minimum prices with the cheapest way to get anything. Doing the most work for the least pay is not a formula for success. To illustrate my point a little further: If you had a choice of buying a burger at a national fast food restaurant, or a run down shack next door that did not show the same degree of cleanliness, nor proper equipment, but charged only half price, in which one would you feel most comfortable? (And on your next trip through the same town in a year or so, which one would you expect to still be in business?)



John Dorsey, CPL

"To be successful at locksmithing means more than knowing your craft - it demands a business plan."

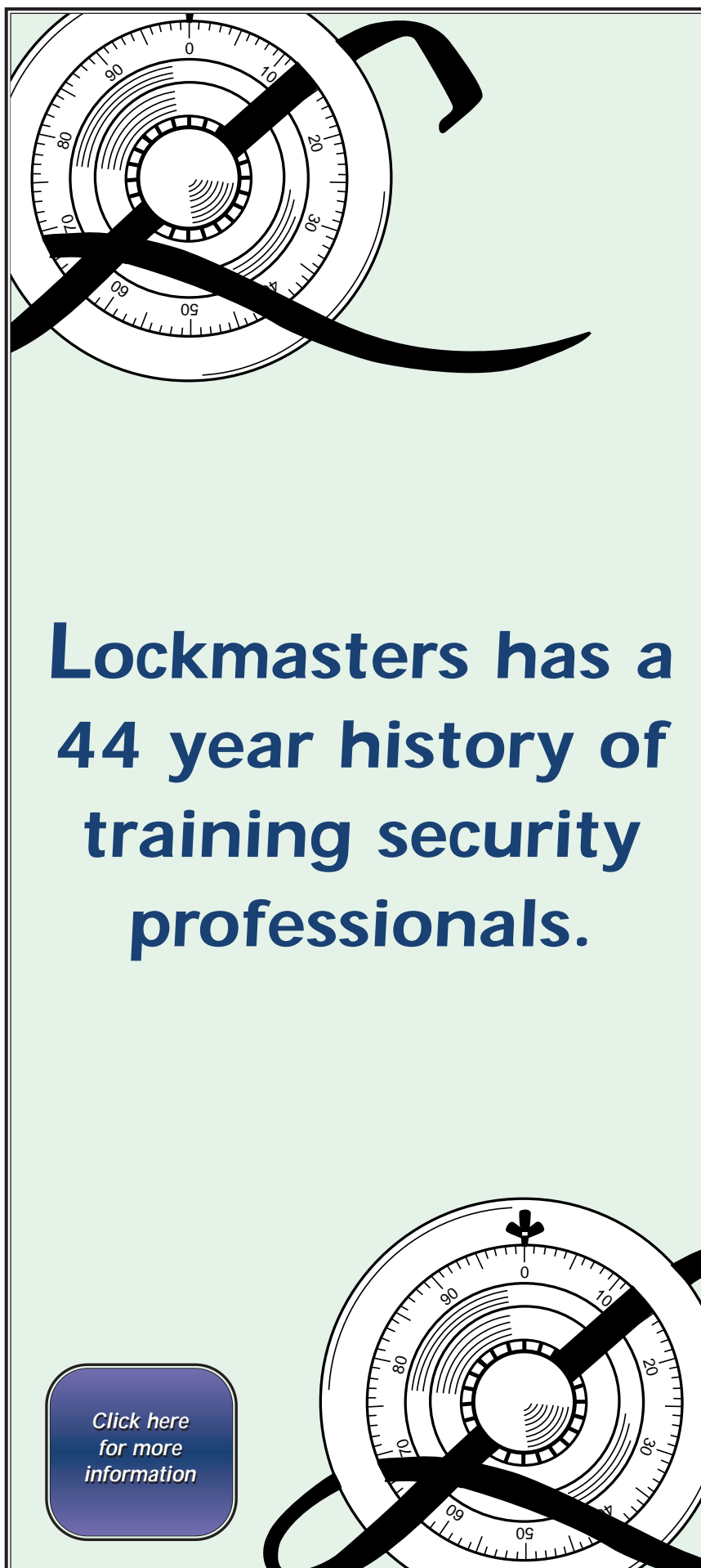
One of the best ways to get started in locksmithing, as a commercial venture, is the same way that is suggested for any business, and that is, develop a good business plan. Of course, you must have training and experience in the field you choose. After that, list the cost of tools and equipment that will be required; the anticipate cost of advertising (including commercial rates for your telephone), store front rent and expenses; taxes, permits, licenses, bonding, and insurance.

Seek the advice of your attorney and tax consultant, it is far better to get bad news before you make an expensive oversight. Measure the potential for your target market, using all the demographics you can locate through your local library and Chamber of Commerce. Set a realistic goal for what you expect to earn the first year, and what kind of volume you will need to generate profit in that area. (Setting a goal of "just earning enough so I have a little left over" is a formula for frustration and failure.)

Establishing a business plan consumes a quite a bit of time and leg work, but it isn't very costly. The results of "planning your work, and then working your plan" can be very rewarding. Chances are, your fellow locksmiths will help and cooperate far more than you might first expect. There are countless important tips, updates, and product information in trade journals. The Associated Locksmith of America (ALOA), regional ALOA chapters, state and regional locksmith organizations will also provide you with an excellent source for help, advice, and training seminars.

Just like going off to war, going into business is not something to be done haphazardly. The better prepared you are, the better your chances are for success. There is good news for some locksmiths that have been at the craft for only a couple of years and have not seen anything approaching a big income: Go to the library and do a business plan now. With the experience you have obtained through the school of hard knocks a business plan now can really help, kind of like putting you into passing gear.

Being a Professional Locksmith is great. You can join us if you do it right. Best wishes. **TNL**



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DOUBLE TROUBLE

Dale explores and discusses
opening procedures for a new wave
of safe/chest -
the International Dual Vault.



by
Dale
Libby



1. Outside view of Mechanical Lock on International Dual Vault. The lock used is a LaGard 3300 with spy-proof dial.

Recently I had the pleasure of examining two International Dual Vaults, the mechanical and the electric lock variety. Here in are some of my observations and conclusions, with a couple of methods to use if you are called on to open one of these units.

The new wave of safes and vaults gives the customer both the protection from fire and burglary. That is right, both fire and burglary protection. This line of safes, which are manufactured in Brazil, have a TL-15 Burglary Resistance Label and a Group II combination lock. The lock is protected by two relockers. One is external and the other internal.

The external relocker is located to the right of the lock as viewed from

Continued from page 12



2. Mechanical Lock mounted VD with LaGard Dual relock cover. Note massive stationary bolts on hinge side of door.



3. Safe comes with three 7 lever keys, a bolt down recessed hole, and a can of touch-up paint.



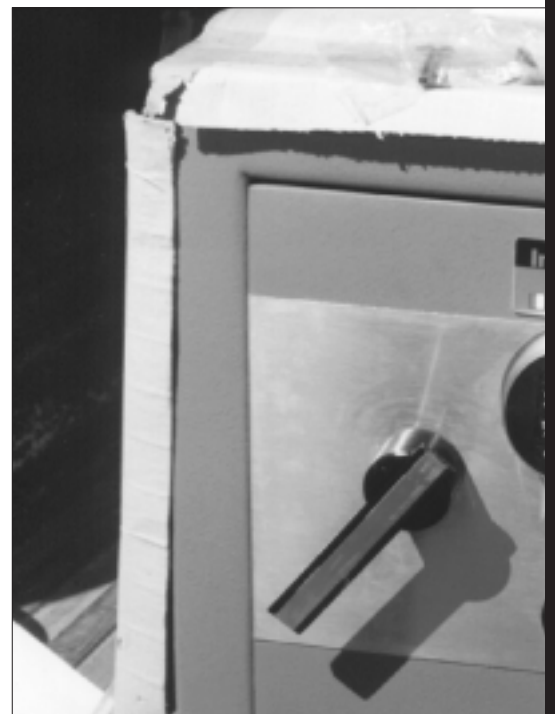
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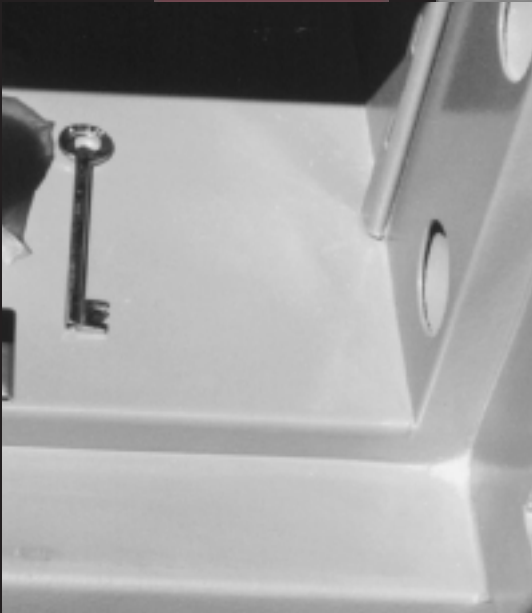
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the outside of the safe and is mounted the same as the lock, vertical down. The other relocker is the standard LaGard type internal spring steel relocker in the safe lock.

Photograph one shows an outside view of the Mechanical Lock version of this safe. The lock used here is the LaGard 3300 with spy proof dial. I personally do not like this dial configuration for it is hard for the customer to read as well as the possible spy. The handle top can also be seen in this picture and this is where the serial number of the safe is located.

The safe is made with composite construction on all six sides. The massive 4" thick door and 3" walls incorporate a composite design using high density concrete and steel matrix. This gives both fire and burglary





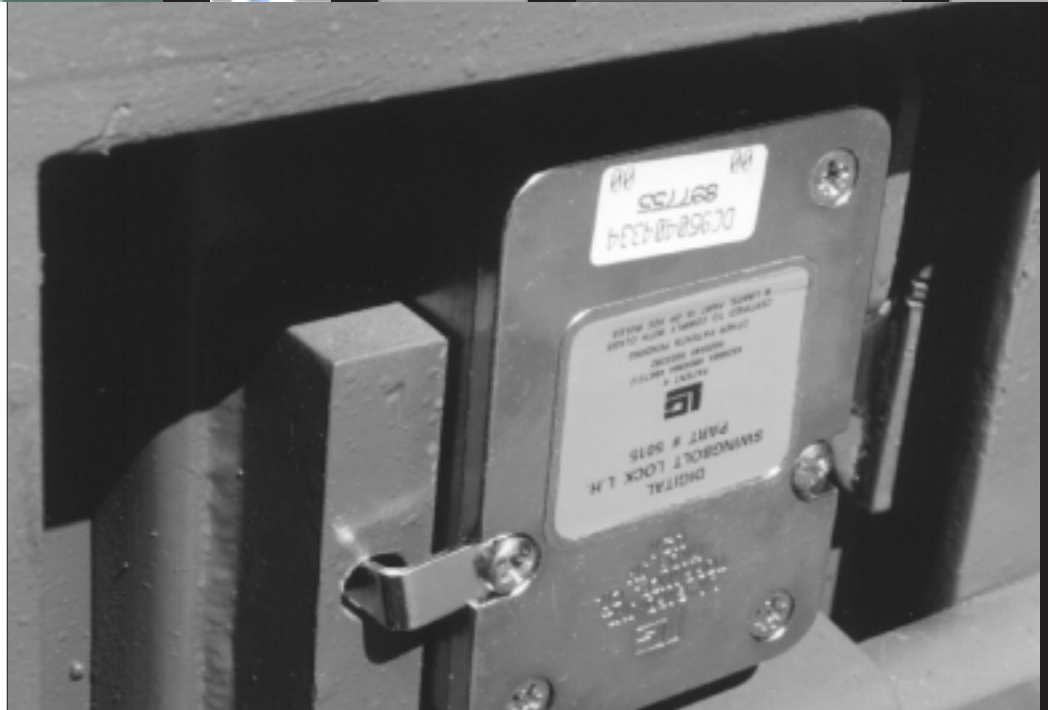
protection. The locking bolts are 1-1/2" in diameter. There are three movable and three stationary bolts. An outside "L" handle opens the door in a single stage movement.

The door pivots have adjustable ball bearing hinges. There is a counter sunk hole anchor hole for bolting the safe to the floor.

Photograph two shows the inside of the mechanical safe lock door. The double LaGard relock cover is mounted on the Vertical Down (VD) Lock. The relocker is to the right of the lock toward the hinge side of the door. When the combination is dialed and the locking bolt withdrawn, the horizontal bolt bar can move freely under the lock.

The safe comes with a seven lever key lock mounted Vertical Up (VU).

4. Electronic lock version of Dual Vault. Note hinge configuration. Handle is in open position.



5. Re-lock configuration on swing bolt lock. Special tab hooks on cover screw.

Three keys are provided. In addition, which I think is a nice option, a can of touch-up paint is included with each safe unit. Also included are adjustable interior shelves and brackets. Photograph three shows a key and the can of touch-up paint.

In the LaGard electronic version, a swing bolt lock is substituted for the mechanical lock. This can be seen in photograph four. The handle swings toward the outside of the safe door to open (clockwise).

When the electronic lock is used, a special relock detent is attached to one of the cover screws. This can be seen in photograph five. A closer look at the top of the lock is shown in photograph six. The code for this particular lock is 897755.

If the combination was ever lost, by having this code, one could reset the lock to the combination 555555. After

that, the lock can be set to another user code. Standard electronic lock combination changing is used.

Another feature of this lock is the lever key lock. The key for this lock is very long and enters almost all the way into the safe door (4"). Photograph seven shows a screw driver pointing to the extended key lock bolt. This lock is mounted vertical up (VU) and impacts on the same center bolt bar that the combination lock does.

This safe offers both residential and commercial protection. The company that manufactures these units also makes combat tanks, armored vehicles, and nuclear reactor doors. All the nuts, screws, and bolts are marked with red and yellow alignment lines.

One problem with these safes I noticed was that in both the electronic

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and mechanical version, the locks and dials were mounted crooked. I am used to mounting locks, dial, and dial rings level on the "square." Not only were the dial and the key pad mounted crooked on the outside of the door, the lock bodies were correspondingly mounted crooked on the inside of the safe door.

I did not have to measure to see this, it was quite apparent even to the unaided eye. This may not effect the operation of the safe, but it would drive me crazy to see a mis-aligned, distorted, twisted and serpentine mounting.

Opening these safes will not prove to much a problem. To open a mechanical lock unit, pull the dial and drill at the drop in point and dial the safe open. This safe is rated TL-15 and there is no glass plate to deal with. On a Swing bolt electronic lock, check the handing (Cable Channel) and drill for the solenoid.

This will allow the combination locks to be circumvented. If the key lock is extended you will have to drill again, this time for the 'stump' of the key lock. Once this is drilled, the bolt



6. Swing bolt lock has reset code in case of lost combination The code is 897755.

7. Inside of door showing the three active one-stage locking bolts. The screw driver is pointing to the key lock which is mounted VU.



will fall into the lock.

If the opening side of the safe is available, one could drill for the 1-1/2" center bolt and punch it back. This would unlock or defeat both the key lock and the combination lock at the same time. I have not tried this, but by studying the configuration of the safe, this method might prove viable.

To locate the center bolt, measure down 3" from the combination dial or keypad center. This is the horizontal line and the approximate center of the center bolt. To determine the depth to drill at the side of the safe, just insert a wire into the key lock hole. This will

give you the depth to drill back on the side of the unit.

I would suggest drilling a 1/2" hole and using a massive punch. Both the swing bolt lock and the manual combination lock have no bolt reinforcing studs. Drilling through the composite material might prove to be a problem. I will let you know when I do this. Also, whenever I'll let you know when I get to open one of these safes from the side, the unit is usually attached to the floor in such a way that side drilling is not a viable option. Open and Prosper !

TNL



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NEWSMAKERS

New Products and Industry News

American Key Boxes' KB250SS

American Key Boxes has introduced the KB250SS (super system), capable of being oriented in a horizontal or vertical position for key viewing and selection. Each panel may be removed from the box if needed. This is ideal for the small vans utilized by many locksmiths today. Each hook will hold approximately 13 to 16 keys.

The KB250SS was first introduced at the Acme Wholesale show in Houston, Texas, and received very well. A free key chart is given with each key box ordered. A lid and cushion may be added.

For **FREE** Information
Circle 326 on Rapid Reply

Lockmasters®, Inc., Knee Pads

Uncomfortable drilling floor safes or safe deposit openings? Lockmasters is pleased to make available top quality knee pads with the following features: ABS



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For **FREE** Information
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NCL Pin Tumbler Locks

National Cabinet Lock offers an expanded line of pin tumbler locks. The first product is a tubular cam lock model crafted by National Cabinet Lock of Canada



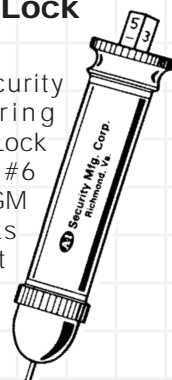
(formerly Pundra). This lock, also for drawers or doors, may be used with lipped/overlay or flush construction. The flexafunction™ design feature enables the locksmith to assemble the lock with the right cam configuration to suit widely diverse needs.

Another higher-security lock is a 7-pin tumbler tubular pop-out lock for vending machines. This lock is used in pop-out handles accommodating 3/4" dia. cylinders. A spring bolt locks the handle to the housing.

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A-1's GM Lock Decoder

A-1 Security Manufacturing Corp.'s GM Lock Decoder #6 decodes all GM sidebar locks without complete disassembly. The tool



comes with easy-to-understand instructions.

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SDC's Series Electric Strikes

The New Grade 1, High Performance 50 Series Electric Strikes with tamper-resistant, extra heavy duty cast construction, have been introduced by Security Door Controls.

Easy to install, the New SDC 50 Series Electric



Strikes are compatible with cylindrical and mortise locks due to their non handed, interchangeable faceplates. The 50 Series is a direct replacement for the former SDC 16 and HES 1000 Series. Contact SD for your SDC/HES cross reference chart.

The 50 Series Electric Strikes are designed to fit ANSI 115.1 prep with simple frame modification for a 1-3/4" to 2" frame made of aluminum or hollow metal.

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4-Button Key Chain Touchpad By ITI

The Interactive Technologies, Inc. (ITI) new wireless 4-Button Key Chain Touchpad provides convenient options for Security Pro 2000 and 4000 users. Users can arm and disarm their systems, activate police or auxiliary panic, and turn lights on or off from 500' away.

Designed to fit on a key chain, in a pocket, or a purse, the 4-Button Key Chain Touchpad is learned either as a sensor or as a wireless touchpad by the control panel in a few simple steps. When learned as a sensor the Key Chain Touchpad can be bypassed or deleted, preventing lost or stolen devices from being used to operate the system.

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Abus Lock's New 24/70

Abus Lock U.S.A. announces the DISKUS® 24 padlock series, now available with a 5-pin precision brass cylinder, 85/40 KB-R key blank, increasing the number of keyed different, keyed alike and master keyed combinations.

The overall design of the DISKUS 24 series provides stainless steel and hardened steel, minimally-exposed



Continued from page 18

shackles, and a stainless steel inner and outer lock body. The padlocks also feature stainless steel body walls, laser-welded to a 70 percent depth at the seams providing over 6,000 pounds of tensile strength.

Both the DISKUS 24/60 and 24/70 are crafted with paracentric keyways and feature anti-pick pin cylinder locking mechanisms. As an added option, the DISKUS 24 padlocks can be supplied with the Abus-Plus locking mechanisms. As an added option, the DISKUS 24 padlocks can be supplied with the Abus-Plus locking system.

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Little Big Horn By STI

The new burglar alarm siren created by Safety Technology International is little in package size but big in sound. Small wonder STI is calling it Little Big Horn.

Its compact size enables it to fit any standard single-gang electrical box for flush mounting (a back-box is included for surface mounting). Yet its powerful 120 dB siren draws attention in a hurry.

Little Big Horn is ideal for residential and commercial burglar alarm installations where a low-cost, dependable alarm signal is required. It's compatible with most professional burglar alarm systems and its aesthetically pleasing design fits almost any decor.

Little Big Horn is easy to install, operates on 12 VDC, and doesn't require an external driver, and is backed by a one year warranty.

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Master Lock's Series 900 Padlocks And High-Security Hasps

Master Lock's line of high-

security hasps and Series 900 Padlocks offer industrial-grade security for those customers looking for extra protection.

The high-security hasp (No. 723D) features heavy malleable iron, hardened boron alloy steel staples, and hinge pins that resist being driven out.

Hasps for special, hard-to-lock applications include single-hinged (Nos. 720D and 721D) or double-hinged (No. 722D) options.



Master Lock's Series 900 padlocks are designed for heavy-duty and outdoor security situations. They feature high-tech alloy steel shackles, solid iron shackle shrouds on high-security padlocks, dual ball-bearing locking, cylinders with special spool pins, and are protected with tough thermoplastic covers that resist rain, water spray and snow.

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GT85 Lubricant

GT-85 Lubricant with Teflon is a lubricant, protector, insulator, water displacer and penetrant. The ingredients, not found in most maintenance sprays, are electronically fused and will not separate. GT-85 does not attract sand, lint dirt, or other debris, nullifying the Teflon. GT-85 Lubricant dries dry.

As a Lubricant, it can be used to make wire pulling easier, allows key locks to move freely and protects against wear, rust, corrosion and will not freeze. Keys slide easier. Can be used on wood and painted surfaces to protect hinges, sliders, file cabinet tracks, locks, garage



door openers and tracks and electronic devices.

As a protector and insulator, it can be applied to contact points, security alarms systems and wire connections. As a water displacer and penetrant, it will clean sticky key locks and make the action like new. Makes easy work of loosening rusted nuts and bolts.

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S&G 6120 Sales Kit

You know the many benefits Sargent & Greenleaf's 6120 Electronic Combination Lock offers your customers. But here's something else to consider - each 6120 you sell earns you almost three times more profit than a standard mechanical lock, dial and ring.



S&G wants to help you sell the 6120 and electrify your profits with the 6120 Sales Presentation Kit.

The kit includes a new Sales Presentation Guide to help you give a short, informative pitch on the 6120. You'll also receive a full-color brochure, point-of-sale sticker and operating instruction sticker. **TNL**

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GENERAL SECURITY

Test Article #97

The PG30 SIRENLOCK

by Steve Gebbia

The PG30 SIRENLOCK is the latest innovation from the minds at Alarm Lock. This is a single door, free-standing exit alarm. (See photograph 1.) It is warranted against defects for 15 months. As with all products from Alarm Lock, full technical support is available at no charge. Available in metallic silver or metallic bronze, the unit is an attractive addition to any door. The product is very similar to the older Pilfergard alarms - with some notable differences.

The most noticeable change is the addition of a keypad in place of the lock cylinder. (See photograph 2.) This allows total control of the unit without the need for a key. Three programmable security levels allow the end user customizable control over any doorway. An external keypad is also available to allow arming and disarming of the unit from the opposite side of the door.

Other changes include: easier installation, selectable siren tones, adjustable annunciator volume, low battery alert, provisions for connection to external power and/or external reed-switches, and a Form-C relay for connection to existing burglar alarm systems. Entry and exit delays are also selectable.

It is obvious that quite a bit of thought went into the design of this new product. Many of the changes are intended to make the unit easier to install. The new, easier to use templates include drawings of various door applications to make selection of the appropriate template easier. A new magnet alignment mode aids in locating the magnet at the proper location. Selection of options such as entry and exit delays is also easier now. More importantly, these selections are no longer permanent. In previous units, to select an option, a jumper wire had to be cut. Now, simply remove the jumper connector. The alarm, like previous models, is also non-handed and can be used on almost any door.



1. Alarm Locks PG30 SIRENLOCK.

When installing as an exit only alarm, the simplicity of the installation makes use of template optional. (See photograph 3.) If you intend to include an exterior keypad or remote wiring, the template must be used. If not using the template, keep in mind that the magnet should be located at least 1/8" and no farther than 1" from the unit. Optimal distance is between 1/4" and 1/2". Improper magnet location is the number one cause of false alarms.

The alarm unit attaches to the door and the magnet is mounted to the frame. If using an external power supply or external reed switches, the alarm unit will mount to the door frame and the magnet to the door. The model 271 flexible cable allows mounting the unit on the door even when using external wiring options.

To mount the alarm to the door, locate the mounting holes using the template or by placing the mounting plate at the intended mounting location. Most applications require four holes for the alarm unit and two for the magnet. On certain narrow stile aluminum doors, only two holes will be used for mounting the alarm unit. Punch out the appropriate holes on the mounting plate and mark these locations on the door. If using external wiring, mark the location of these additional holes. Install the mounting plate to the door.

Jumper options J1 through J4, described below, should be selected at this time. To select an option, place

the connector over both jumper terminals. Removing the connector or placing it over only one terminal disables the option. Changes made to the jumper options do not become effective until the next time the unit is armed. The jumpers are located in the lower left corner of the circuit board. (See photograph 4.)

Jumper option J1 is a 15 second entry delay. This option delays sounding the alarm for 15 seconds after entry. This allows an authorized user 15 seconds to disable the alarm. Failure to enter the proper code in the allotted time sounds the alarm.

Jumper option J2 is a 15 second exit delay, allowing authorized persons 15 seconds to exit through the door immediately after arming the unit without the alarm sounding. After the 15 seconds expires, opening the door sounds the alarm immediately (unless option J1 is also selected).

Option J3 is an annunciator that causes the alarm to sound for two seconds every time the door is opened - even if the unit is not armed.

Jumper option J4 toggles between a continuous alarm mode and a two-minute shutdown mode. With option J4 on (connector over both terminals), when triggered, the alarm sounds continuously until the battery is depleted or until the alarm is canceled

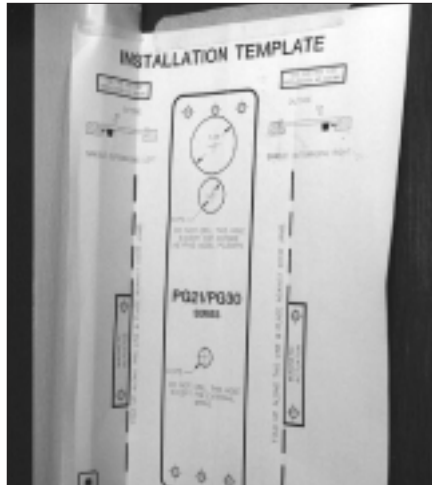


2. The PG30 is activated using a keypad instead of a key.

by entering the proper code. With this option off (connector removed or placed over only one terminal), when triggered, the alarm sounds for two minutes, then re-arms itself if the door is closed. (If the door is still open after two minutes, the alarm will sound once again). Once the unit has reset, the LED will begin to flash to indicate that an alarm has occurred (alarm memory). Entering the proper code cancels the alarm and reset the alarm memory.

To allow for mounting on left or right hand doors, the PG30 has two reed switches. Before installing the unit, you must select which reed switch will be used, as one must be disabled to prevent false alarms. To accomplish this you must cut one of two white jumper wires, located near the horizontal center of the unit - one on each side. (See photograph 5.) Cut the wire only on the side of the unit where the magnet *will not* be installed. This is a permanent change, so be sure you are selecting the correct wire before you cut.

With the jumpers set and the correct reed switch selected, it's now time to mount the unit to the baseplate. Connect a 9-volt alkaline



3. The template does not need to be used for an exit only installation.

battery to the battery cable. A chirp will sound indicating that power is properly connected. Press the small button located in the lower left corner of the circuit board (next to the jumper terminals). This clears any existing codes and prepares the unit for operation. (If the codes are ever lost, pressing this button erases all existing codes and the master code reverts to the factory setting).

Attach the cover to the baseplate

with the three short #6-32 machine screws. Do not install the long #6-32 screw yet. This screw activates the tamper switch and installs in the lower left corner of the cover. After the battery is connected but before the tamper screw is installed, the unit is in magnet alignment mode.

False alarms or continuous alarms are almost always the result of improper magnet location. If the magnet is not installed in the proper location, the unit will not arm properly. This task has been greatly simplified by the folks at Alarm Lock.

To align the magnet (while in alignment mode), start by placing the magnet against the frame adjacent to the alarm unit. Slowly slide the magnet upwards. The LED will light to indicate closure of the reed switch and then it will go out. Mark the door jamb at the bottom of the magnet. (Note that sliding the magnet further upwards will cause the LED to light again - ignore this and any additional indications).

Now place the magnet against the frame adjacent to the top of the unit and start sliding it slowly downward. Once again the LED will light and

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then go out. Mark the frame at the top of the magnet.

These marks indicate the upper and lower extremes of the sensitivity of the reed switch. Place the magnet midway between these marks and secure it to the door frame.

Keep in mind that placing the magnet on a steel frame may cause the frame to become partially magnetized. This can cause false alarms. To prevent this, place a non-magnetic shim between the frame and the magnet. This shim should be 1/2"x2-1/2"x1/8" thick.

Install the tamper screw and the unit is in standby mode (disarmed). Entering the master code alternately arms or disarms the unit. Now, test the unit.

1. With the door closed, enter the factory set Master Code (1-2-3-4-5). The unit will beep to indicate that it is armed (regardless of any entry or exit delays).

2. Press the [AL] button. The LED will light to indicate that the unit is armed. Holding this button down for more than two seconds will test the sounder.

3. Open the door. A sweep siren should sound.

4. To reset the alarm, enter the Master Code. Once all codes are programmed, entering the Management Code will also cancel the alarm.

The LED will blink once every minute to indicate the unit is checking battery status. If the battery becomes too weak, the PG30 will chirp once every minute to indicate low battery level. Replace the battery as soon as possible after the unit begins to chirp.

After testing the unit's operation, a new Master code, Management code

and Passage code must be set. The factory set Master Code must be changed before any other codes may be set.

The PG30 should be mounted to the door with the magnet properly aligned before programming new codes. When entering new codes, each button must be pressed within five seconds of the previous one or the unit will time out. Press the [AL] button to clear an incorrect entry (prior to completion). The unit will beep seven times to indicate a code has been accepted. Five beeps indicate a programming error or an incorrect code.

To program a new Master Code, enter: [old code][AL][1][AL][new code][AL]. An example would be: 1-2-3-4-5 [AL][1][AL] 3-1-2[AL]. The new Master Code is now 3-1-2. This code allows you to program or change any feature of the unit.

To program a Management Code, enter: [master code][AL][2][AL][new Management Code][AL]. To enter a Management Code of 2-2-2, for example, enter: [3-1-2][AL][2][AL][2-2-2][AL].

The Management Code allows programming of the Passage Code, any feature, or to silence the alarm. It cannot change the Master or Management Codes.

The Passage Code allows the user to pass through the door without altering the alarm status of the unit or activating the alarm. If the unit is armed, the door must be closed within 15 seconds or the alarm will sound. To program the Passage Code, enter: [Master or Management Code][AL][3][AL][new Passage Code][AL].

There are three levels of security that are programmable using either the Master or Management Codes. Level One affords the highest degree of security and is the default mode. Opening the door while the unit is armed causes the alarm to "latch on." The alarm may only be reset using the Master or Management Code.

In Level Two mode, entering the Passage Code allows the door to remain open up to 15 seconds without activating an alarm. If the door remains open longer than 15 seconds, or no valid code is entered, a "non-latching" alarm activates. When the door is closed, the alarm cancels and the unit resets.



5. After choosing what side the magnet is going to be on, cut the appropriate wire.

Level Three allows the door to remain open indefinitely without sounding an alarm, once a valid code is entered.

The default siren sound is a sweep style siren. A steady siren or a pulsing siren are also available and changed by programming using the Master or Management code.

Annunciator volume is adjustable by two means. Low or High volume is selectable through the program mode, using the Master or Management codes. Low volume is also adjustable by means of a potentiometer in the upper left corner of the circuit board.

An external power supply (Alarm Lock part #PP100) may be attached to terminals 7 and 8 of the terminal strip on the circuit board. The 9-volt battery then serves as a backup in case of power failure.

External reed switches may be attached to terminals 4 and 5 to allow monitoring of several openings by one PG30 unit.

Terminals 1, 2 and 3 control a relay that may be connected to an existing burglar alarm system. When the alarm sounds, the relay is activated.

The Alarm Lock PG30 is a welcome addition to the free-standing alarm market. Its unique features solve many of the shortfalls of existing stand-alone alarm units. The ease of installation, combined with the many advanced features make this an alarm that will be in high demand.

*For more information contact an Alarm Lock distributor, or Alarm Lock at 345 Bayview Avenue, Amityville, New York, 11701. Or call 800-ALA-LOCK (800-252-5625). **NLI***



4. Making the jumper selections.



AUTOMOTIVE SECURITY

Test Article #98

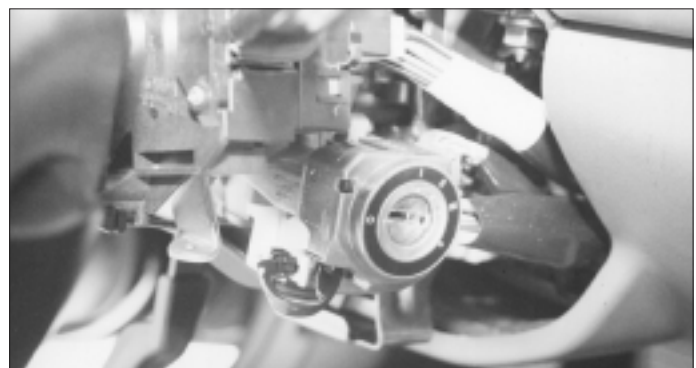
1994-95 Honda Accord, Part 1



1. The 1995 Honda Accord.

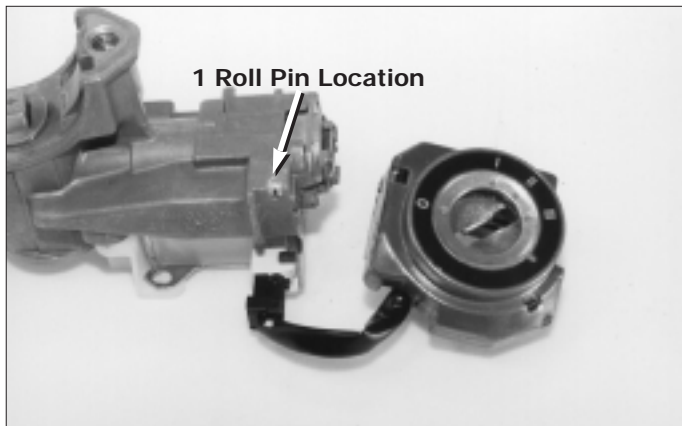


2. This column uses a two piece clam-shell shroud, held together by six screws.



3. Two shear head bolts hold this new style ignition to the column.





4. Remove the two pins that hold the facecap to the lock.

by Michael Hyde

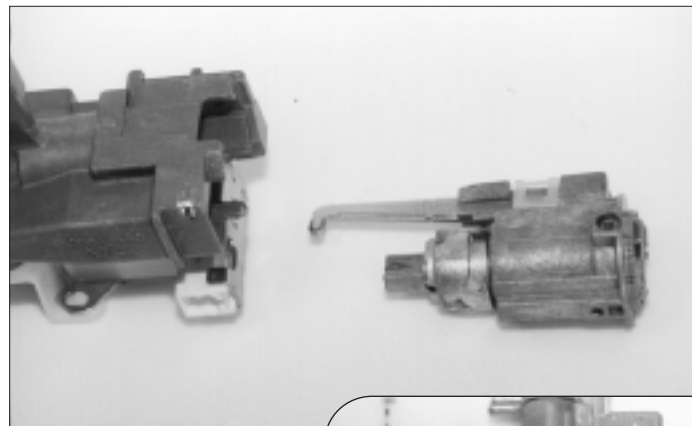
This month we take a look at the newest version of the Honda Accord. (See photograph 1.) This model uses a new type of ignition lock assembly never seen before on a Honda. All the locks, except the ignition, still have a code on them including the glove box lock.

Opening the car is straight forward as it has vertical linkage. I used an "Under-The-Button" tool that, with a little probing, I was able to raise the button.

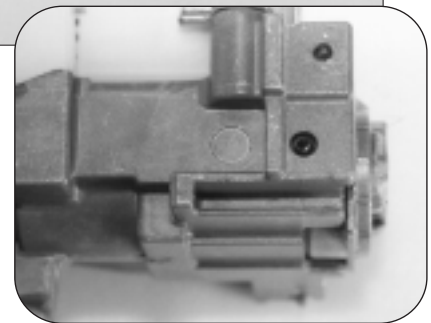
Ignition Lock

The ignition lock can be accessed by removing the plastic "clam-shell" around the column. First you should disconnect the battery, as a precaution, although removal of the airbag and steering wheel is not necessary on this model. The clam-shell is held together with six Phillips head screws. (See photograph 2.)

This type of ignition lock has a new design and face. Unlike older versions, the whole ignition assembly has to be removed from the column to be re-coded or serviced. The lock



5. Now remove the roll pin that holds the lock cylinder in place.



assembly is fastened to the column by two shear head bolts found at the top of the column. (See photograph 3.)

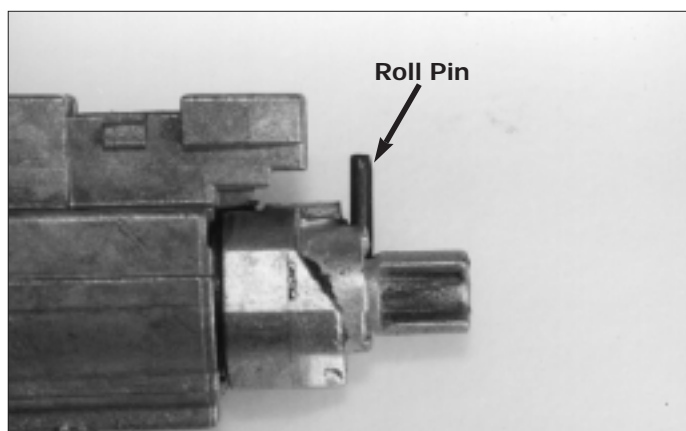
Once the shear head bolts are removed the lock slides away from the column easily just be mindful of the column wiring. The lock assembly



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Continued from page 30



6. Remove the roll pin from the plug's tailpiece.



7. The entire disassembled ignition.

wiring unsnaps from the lock.

The lock face plate has to be removed to service this lock. There are two tension pins, one on each side of the lock, that hold the face plate on. Drill a 7/64" hole next to the pins and pry them out. Once the pins have been removed the lock face plate slides right off. The wires attached to the face plate simply unsnap from the connector. The face plate contains the buzzer switch and the shift interlock micro-switch. (See photograph 4.)

Now that the face plate has been removed there is still one tension pin

holding the lock cylinder to the housing. The pin is easily removed (I used a broken key extractor to remove the pin.). After you have removed the pin the cylinder will slide right out. (See photograph 5.)

The buzzer arm is held in place by a plastic fastener. It is best to temporarily remove it so as not to damage it while servicing the cylinder.

The cylinder plug is held to the cylinder housing by a tailpiece with one tension pin next to it. Tap the pin out from either side, to remove it. (See photograph 6.) The lock plug now

slides out the front of the cylinder housing. The ignition plug contains all eight tumblers. The whole assembly in its disassembled state is pictured in photograph seven.

Door Locks

The door lock cylinder is an integral part of the outside door handle. To remove the door cylinder you must remove the door panel. The panel is attached to the door with three Phillips head screws and eight push-in plastic clips.

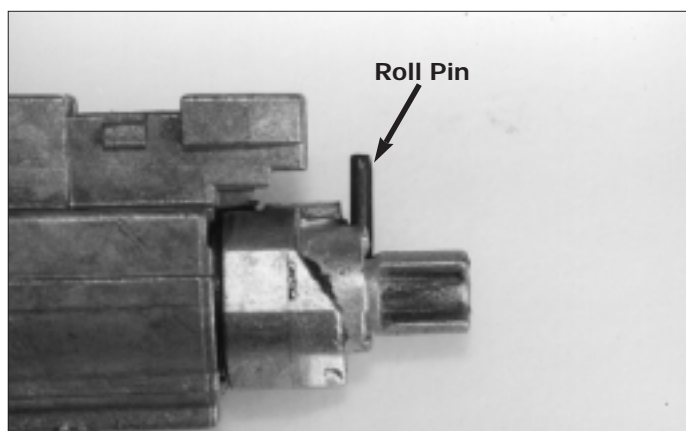
The first screw is hidden behind a
Continued on page 32

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Continued from page 30



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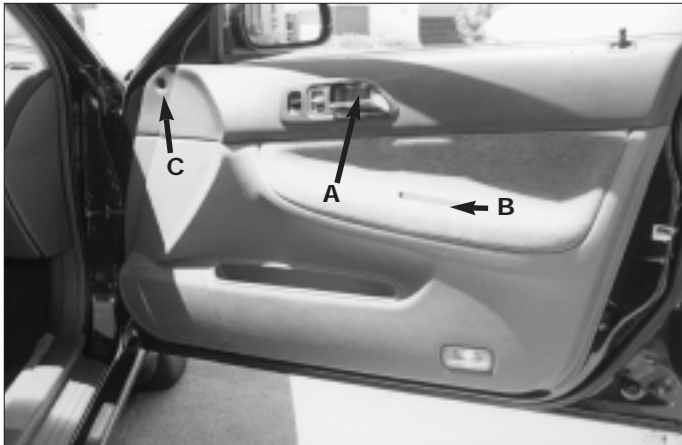
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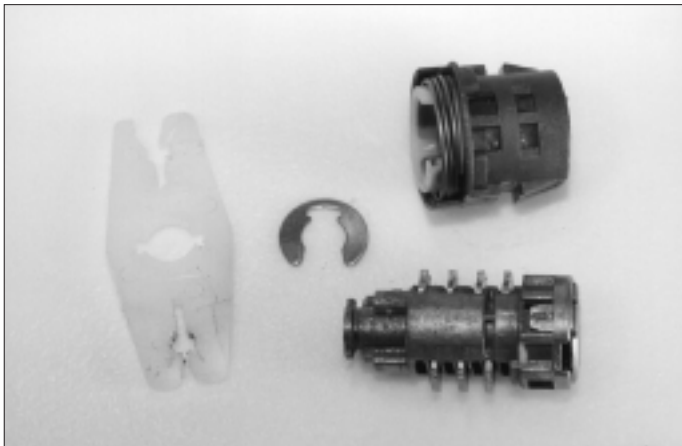
Continued on page 32

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8. Three hidden screws and eight clips hold the door panel on. The screws are located (A) by the inside release lever, (B) the door pull cavity, and (C) under a small trim cap near the front of the trim panel.



10. The disassembled door lock.

trim piece on the inside handle release. The second screw is located in the door pull cavity. The third screw is located under a trim piece on the upper forward section of the door. (See photograph 8.)

Gently pull outward on the lower section of the panel to unsnap the plastic clips. Once you have removed the panel, pull back the plastic liner

and insert a 10mm socket into the access holes to remove the two bolts that hold the outside handle to the door. (See photograph 9.) The tailpiece on these locks are plastic and some care should be taken to remove the linkage rods from it. Now that the handle bolts have been removed you



9. The handle is held to the door via two 10mm bolts. Remove them and slide the handle out the front.



11. The trunk lock is actually part of the deck lid. Simply remove the linkage rod and 10mm bolt to remove it.



can push outward on the handle and remove the lock cylinder by sliding the wire retaining clip to the side.



12. The face cap on this lock can be removed but must not be damaged.



13. The disassembled trunk lock.

The door lock cylinder is one of the easiest to service. Remove the "C" clip from the back end of the lock and the cylinder plug will slide right out. No face cap needed. The cylinder contains seven tumblers in positions 1 through 7. There are six depths. The door cylinders are available from Auto Security Products. (See photograph 10.)

Trunk Lock

The trunk lock on this car is an easy one to service. Open the trunk and remove the one 10mm bolt holding the lock to the deck lid. Disconnect the linkage rod. Rotate the lock until it slides out of the deck lid. (See photograph 11.)

To disassemble the trunk lock it is necessary to slide off the face cap. (See photograph 12.) The face cap must be re-used, use a small flat bladed screwdriver to wedge the bottom edge of the cap off the lock. Next remove the "C" clip off the back end of the cylinder plug and slide off the tailpiece. The cylinder plug will now slide out the front of the housing. The trunk lock contains seven tumblers in positions 1 through 7. There are six depths. (See photograph 13.)

Next month we'll cover the glove box and accessory locks as well as key generation methods. **IN**

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ELECTRONIC SECURITY

Test Article #99

Electronic Security Without Wires?

by Joseph Moses, Ph.D.

In our next series of articles, we are going to cover a market of security that the locksmith is often intimidated by - wireless alarms. Like their hardwired predecessors, wireless alarms vary in degree of sophistication, from the very simple, residential application to the more complicated military and governmental installation. Unlike hardwire, however, wireless system components are generally very easy to install (even easier than deadbolts) and typically yield higher profits.

Definition And Application

What is a wireless alarm system? Quite simply, it is an alarm system that uses radio transmitted signals instead of wires to connect the various components to the main control. In a hardwire system, a main control is placed in an inconspicuous place on a premise. Then, wires must be run from each keypad(s), each door/window contact, each Passive



1. Control panels like ITI's CareTaker Plus receive signals from radio transmitters located in sensors and remote keypads. Without having to run wires to each sensor, wireless installation is a perfect addition to the locksmith's income.

Infrared (PIR) motion sensor, etc., through the walls, basement and/or

attic back to the control panel where they are terminated.)

Wireless, on the other hand, typically involves the installation of the control panel, keypad(s), door/window contacts, PIR, etc., and that's it. Communication with the control panel is achieved via transmitters placed in each device. In essence, the control panel and each device communicate with one another through radio waves, eliminating the need for running wires. (See photograph 1.)

Of course, it's the simple installation that makes wireless so appealing to the locksmith. And while not feasible for all applications, today's wireless systems are capable of handling most all applications that the locksmith comes across.

Applications for wireless security systems run the gamut from bread and butter residential installations to the complex commercial and government security market where

The Language of Wireless

Wireless technology—like other areas of specialization—has its own vocabulary. Understanding how wireless works means learning the language of RF energy.

Diversity - The use of redundant antennas. For example, all control panels made by Interactive Technologies employ two antennas instead of one. Although the odds of missing a single path signal are generally very low, it can occur. With two antennas, the odds of missing a signal traveling two different paths at the same time is exceptionally low.

Free Air Range - The unobstructed communications range of a transmitter-receiver system.

Interference - Anything that reduces the communications range of a transmitter-receiver system.

Multi-Path Fading - The canceling of a signal caused when the signals from two or more paths reach a single antenna at the same time.

Narrow Band - Transmitters that send with a very narrow band width radio signal and have less chance of being interfered with or jammed than systems having a wider bandwidth. Also a term that has special meaning in the alarm industry—it means any radio that is not spread spectrum. In a narrow band system the smaller the receiver bandwidth, the less chance the signal will be interfered with.

Noise - An unwanted signal that interferes with

communication between system transmitters and the receiver.

Receiver - Alarm panel components that process the signals received by the antenna and regenerate the digital message of the transmitter.

RF - Radio frequency. A common term, often interchanged with "wireless" and "radio signals" and/or "waves."

RFI - Radio frequency interference. Interference derived from other sources of RF transmission.

Spread Spectrum - Transmitters that send signals at broader band widths than narrow-band transmitters. Spread spectrum transmitters have less building penetration capability than narrow-band transmitters but have greater resistance to jamming.

Supervision - The use of a special signal sent automatically from the transmitter to the receiver at regular intervals to inform the receiver that the transmitter is functioning properly.

Transmitter - A device that generates a radio signal.

Wave Length - The distance that the radio wave travels in one cycle of the transmitter's frequency. A 300 MHz transmitter has a wave length that is optimum for penetrating building materials.

quick installation is often in big demand. Whether your job is to secure a home that has been recently burglarized, or a condominium complex, or a tool shed, you'll find that wireless security systems have the versatility you need to get the job done.

But before we begin our series, let's first take a look at some of the myths and facts that have surrounded wireless technology. Many of the fallacies today were born of experiences with older and outdated technology.

Myths Versus Facts About Wireless Technology

Wireless technology has developed in the face of objections held by the people who buy, sell, and install security systems. Those objections die hard when negative perceptions about wireless persist long after improvements in design, manufacture, and technology have resulted in sophisticated and reliable wireless security systems.

Although myths are hard to shake, wireless technology has prevailed and is indeed making serious strides.

Myth: Wireless is more complex to install and requires more programming than wired systems.

Fact: Wireless systems are extremely easy to install, and today's most advanced wireless sensors are easily programmed. The control panel is able to learn the unique identification of each sensor through a simple operation using a control panel touchpad. The simplicity in programming significantly cuts down on installation time. (See photograph 2.)

Myth: Batteries in wireless transmitters have to be changed constantly.

Fact: It's true that batteries need to be changed. In older systems, batteries typically lasted a year or more, depending on the amount of use. Today, however, many systems use long-life lithium batteries that typically last 5 to 8 years. A new 20-year battery is currently under development.

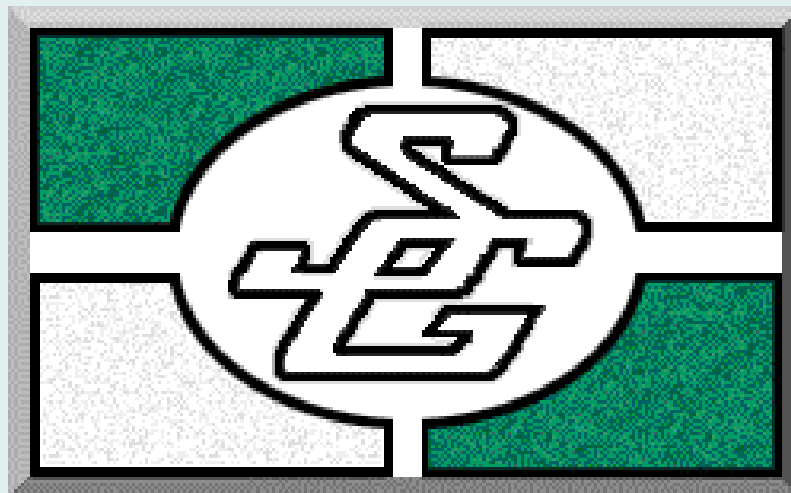
Myth: Airplanes flying overhead, remote garage door openers and other radio devices will cause false alarms in wireless security systems.

Fact: The sophisticated digital encoding and decoding capabilities of

What to Look for in A Good Wireless System

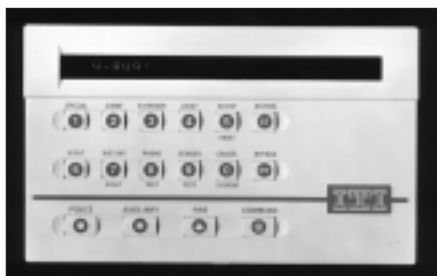
You will find that wireless security systems vary in cost, features, range, and reliability. A system that will give you a chance to build a strong reputation as a wireless security dealer and give you the fewest technical headaches will have features like these:

- Wireless transmitter ID codes with greater than 1 million settings.
- Battery life that is greater than 5 years.
- Crystal controlled frequencies and very narrow band receivers or spread spectrum receivers with high processing gain.
- Control panels with redundant antennas.
- Transmitters that are supervised at better than 12-hour intervals.
- A reputable manufacturer with proven technology and technical support, and a large base of successful installations.



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2. Wireless system programming is as simple and installation easier than hardwire systems. Like hardwire systems, touchpads can be used to arm and disarm, and program the security system.

state-of-the-art wireless systems prevent false decoding of signals from other sources, including airplanes. The codes act like a 54-pin lock to eliminate the chances that a random key would fit somewhere that it shouldn't.

Myth: A receiver might hear a signal from a transmitter one day and miss it the next. This myth is based on a time when receivers had only one antenna and a signal could be canceled out if a second signal from the same transmitter had reflected off of a surface and reached the antenna at the same time as the first signal.

When signals from two or more paths reach a single antenna at the same time and cancel each other out, the occurrence is called multi-path fading. (See the "Language Of Wireless" sidebar for a definition of terms.)

Fact: Diversity or the use of redundant spatially diverse antennas virtually eliminate the chance of missing signals due to multi-path fading and are part of a well designed system.

Myth: Wireless systems work only in very small metal-free buildings.

Fact: Airports, music theaters, and arenas are among the many applications where wireless burglary, fire, and access control systems provide protection in spite of long transmission ranges and metal construction. Residential systems are so powerful that range is seldom, if ever, an issue.

Wireless Features/Wireless Benefits

Wireless technology means fewer installation headaches. Wireless transmitters require no costly labor time for running wires. In supervised wireless systems, each transmitter or device has its own encoded ID. On a

regular basis communication is made between each transmitter and the control panel. The transmitter ID as well as transmitter status (i.e. Low battery, open switch, etc.) is noted by the control panel.

A major benefit of a supervised system is its ability to provide pinpoint accuracy of detection. When a smoke sensor is activated, for example, the control panel notifies the central station not only that a fire has broken out, but which sensor is sending the signal, indicating the fire's location. When subsequent smoke sensors are activated, authorities know in which direction the smoke is spreading.

Supervised wireless systems can also track movements of intruders as they activate perimeter sensors followed by interior sensors. A central station, for example, can notify the police department as to what door or window was entered, and into what interior area the intruder has trespassed.

Old wireless systems posed problems when batteries died without giving any notification. The dead battery left the door or window unprotected and the end user without



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a way of knowing whether a sensor was operating properly. Supervised systems monitor the condition of batteries and indicate the location of sensors with low battery power long before they fail.

Supervision also allows users to locate faulty transmitters, PIRs, and door/window sensors. Codes can also designate the function of transmitters by programming them for perimeter break-in, interior burglary, fire/smoke, panic, medical, or environmental alarms (water leakage, rate of rise heat sensors).

Millions of codes are available to transmitters in some systems. Transmitters manufactured by Interactive Technologies, Inc. (ITI) for example, have over 16 million codes available, virtually eliminating the possibility of duplication. With that many codes, there's little chance of a system being installed in a neighboring home with the same codes.

Other designed uses for transmitters include protecting paintings, arm and disarm security systems, to signal changes in air pressure or the presence of body heat. Wireless keypads, panic buttons, and even money clips are among the 21 different transmitters designed by ITI for commercial, residential, and government uses. (See photograph 3.)

The Cost of Wireless

Many users of wireless security systems have long held that the initial higher cost for wireless components is offset by the lower costs of labor. Similarly, dealers of wireless security systems have lower overhead costs associated with installation—needing fewer trucks and personnel than their hardwire counterparts to install the same number of systems. One study showed significant differences in the



3. Door/Window sensors send an alarm signal to the control panel when their battery-powered circuits are broken. The small unit is a magnet; the larger unit contains the battery and radio transmitter.

cost of installing wireless versus hardwire security systems. The informal study, conducted at a meeting of 14 security dealers, discussed the sale and installation of 1 control panel, 1 exterior siren, 2 touchpads, 3 doors, 15 windows, 2 smoke detectors, and 1 PIR. The group broke down costs as follows:

| | Hardwire | Wireless |
|-----------------------|----------------|-----------|
| Equipment | \$425 | \$1304 |
| Labor \$40/hr | (32 1/2 hours) | (8 hours) |
| | \$1300 | \$320 |
| Gross Profit | \$775 | \$876 |
| Profit per labor hour | \$23.85 | \$109.50 |

Narrow Band Vs Spread Spectrum

While more important to an engineer than the locksmith installer, because it is at the heart of a wireless system, a basic understanding of the radio signals used by wireless systems is important.

Broadly speaking wireless security systems can be placed in one of two groups: narrow band and spread spectrum. Narrow band and spread spectrum refer to the way a message is placed on a radio signal. A narrow band system uses a small part of the spectrum for messages, while a spread spectrum system spreads the message over a wide frequency range.

Narrow band usually means smaller transmitters, fewer components, and the consumption of less battery power than spread spectrum. Spread spectrum's advantage includes the ability to transmit at higher power levels, which provides a stronger signal that is more resistant to jamming.

The trade-off for higher power in spread spectrum is reduced battery life and higher system cost. Narrow band systems transmit a more focused signal, which requires less power and puts less drain on the battery.

Radio Frequencies

Wireless security systems in North America operate on frequencies of 40 MHz, 300-420 MHz, or 902-928 MHz. 40 MHz systems have the greatest difficulty penetrating building materials. Transmitters that send signals in the frequency range of 300 MHz-420 MHz have the least amount of signal loss through building materials and the least amount of noise. Spread spectrum systems must use the 902-928 MHz range, which is getting noisier because of the popularity and wide variety of spread spectrum uses like cordless phones.

The author is Senior Editor at Interactive Technologies, Inc. (ITI), of North St. Paul, MN. For more information call ITI at 800-777-5484.

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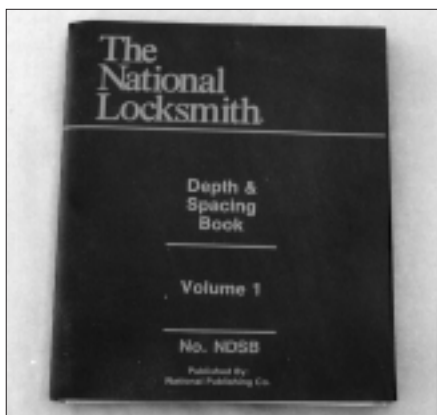
BEGINNER'S CORNER

Cutting Code Keys

When a new locksmith is trying to get started and established, there is one big consideration, money, or the lack of it. If you buy out an established shop, then you have just about all the tools and supplies that you need. But, if you are starting from scratch, some times you have to buy a few tools at a time, as needed.



by
Eugene Gentry



1. The depth and space book by The National Locksmith is a good start to code cutting keys.

There is one item that a locksmith does need, a code machine, and there are some good ones on the market. However the machines are quite expensive and some times the purchase has to wait until money is available.

When I first started I was able to cut codes without a large outlay of cash by using my Foley Belsaw machine. If you took the schooling, then you get the duplicating machine. If not, they can be purchased for about \$220.

Code key cutting on this machine is



2. Using depth keys is also a long used and accepted method.

slower and not as accurate as a regular code cutting machine, but it does get the job done, and will get you by until a code machine is purchased.

There are a couple things that you do need before you can cut codes. One is a space and depth book, which gives you the measurement of the cuts on the key blanks. (See photograph 1.) An alternative is space and depth keys. (See photograph 2.) These are blank keys that have the proper spacing and depth of the cuts already cut in the blank. Another necessary item is the code books. The code numbers on a lock do not do you any good until you look them up in a code book to see what the key cuts are. To save time and the number of books, codes on computer disks and CD ROM are now available.

The Foley Belsaw is equipped with a code cutting cutter wheel and a depth micrometer, but you do need a spacing micrometer that attaches to the slide bar of the machine, cost is about \$60. I leave mine on all the time, in a down, out of the way position. (See photograph 3.) This machine has two motors, one AC and a DC to plug in the cigarette lighter.

Cutting By Depth Keys

I find the easiest codes to cut are for the Master Padlock, using the depth keys. No need to change to the

code cutting wheel as the duplicating cutter works well for this. There are seven keys in this set, each key with four cuts, properly spaced, and each with just one depth.

If the code number on the Master Padlock is 1108, the code book tells us the key cuts are 4324. Place a number 4 depth key on the duplicating tracer, and cut number one on the blank.

Place number 3 depth key in, and cut space two on the blank. Finish up by using depth keys 2 and 4 to cut your three and four cuts.

Cutting By Micrometer

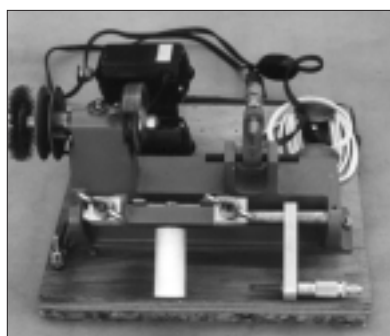
One word of caution. When you change to the code cutting wheel, be sure that your machine is in adjustment. I found a difference between the duplicating cutter and the code cutter. When the wheel is changed, then

the tracer has to be changed to the code cutting tracer.

If we were to cut a code key for the

common Kwikset, the Depth and Spacing book tells us that the spacing from the bow is .247-.397-.547-.697-and .847. The depths are 1-.328, 2-.305, 3-.282, 4-.259, 5-.236 and 6-.213.

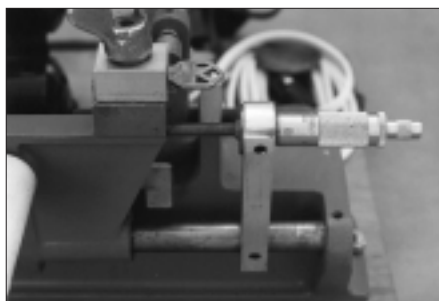
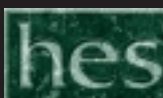
Place two key blanks in the machines vises. (See photograph 4.) The code tracer on the machine is tapered on both sides so it will not butt against the shoulder of the key blank. Lift the code tracer so that the tip is right at the shoulder, then set the spacing micrometer at 0 and tighten the set screw with an Allen wrench to hold it permanently. (See photograph 5.)



3. The Foley Belsaw duplicator with attached depth and space micrometers.



4. Place a key into the tracing and cutter jaws.



5. Setting the spacing micrometer to 0.

We will cut a code key with the code of 5-2-2-3-3. To start the code cut, turn the spacing micrometer to .247 and set the depth micrometer to .236 for the first cut. If you look at a factory cut Kwikset key, you will notice that it is wide at the bottom of the cut. Your code wheel will not give you this width at the bottom of the cut, so you will have to adjust your spacing micrometer about .020 on either side of .247.

It might take a little experimenting to do this, as you have to hold the vises tight against the spacing micrometer. One thing that helped me was to place a compression spring on the left side of the slide shaft to hold it tight.

Continue on with the code cutting, adjusting the micrometers for spacing and depth until the key is completely cut. You won't be able to do any fancy code key cutting, but you should be able to do many of the more common keys.

When the time is right, you can move into a more sophisticated machine like the HPC 1200 or Framon. These machines allow you to cut keys well within the manufacturers specifications without making a lot of adjustments. Until that time, however, use a simple machine like the Foley Belsaw duplicator.

A complete set of code and spacing and depth books are available from *The National Locksmith*, (708) 837-2044.

Also, codes on CD-ROM are put out by HPC and available from authorized HPC distributors or call HPC at (708) 671-6280.

For information on the Foley Belsaw key machine, contact Foley Belsaw 6301 Equitable Rd. P.O. Box 419593 Kansas City, MO 64141-6593. Phone (800) 821-3452.

Spacing and depth keys can be obtained from Areo Lock, P.O. Box 16434 Memphis, TN 38186-0434, (800) 627-9433.

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Cover
Feature



PUNCHING

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by Dale Libby



1. The author, Dale Libby, with the battered Gardall CV1311 Closet Vault and AMSEC BF1512.

it always amazes me what new twists and turns cause me to learn new and different techniques whilst safecracking. Recently *The National Locksmith* testing lab was at it again. This time we used some rather good containers for burglary and fire protection.

The upper container of photograph one is a Gardall CV1311 Closet Vault, and the lower one is the American Security Products or AMSEC model BF1512. You can see me and the two demolished containers.

Photograph two shows the "Before" pictures of the two safes just as they were unloaded. For purposes of this test, we assumed that the safes were mounted to the

**Dale
attacks
and then
opens
a Gardall
CV1311 and
an AMSEC
BF1512 safe.**



2. The safes before our 15 minute attack.



3. The battered containers and tools. The safes easily withstood the assault.

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Continued from page 42

not punch off the safe door. Photograph six shows the attacked container ready to be opened.

Gardall CV1311 Closet Vault Opening

For the sake of the beginner safe technician, I limited myself to what tools I would use to open these two safes. They was a drill motor, several drills, a punch, an S&G Lock Body, and a borescope. I did not use any technical manuals or any secret drill points. I tried to let the safe tell me what was going on. I had a few notions on how to proceed opening the safes; one of which proved correct for one safe, and incorrect for the other.

Photograph seven shows my attempt to template the Gardall safe with a RH Right Handed Lock. I put the S&G combination lock over the spindle hole. It was way too close to the handle stub to be mounted RH. I then put the lock in the VD Vertical Down position and marked a hole to drill for the end of the combination lock bolt. This was about 2-3/4" from the center of the spindle straight down.

I figured that since the internal relock trigger was set off in the lock, there was really no point in trying to drill and open the lock. The fastest way to get rid of the combination lock would be to punch the bolt out of the way, and they go for the relock trigger.

I drilled a 5/16" hole at my mark. I met with some good hardplate. I changed to a Strong Arm bit and continued drilling the hole without a drill rig. This was like the "OLD" days. It is too much work to drill hardplate without a drilling rig of some sort. (Right, Steve Williams?) I did limit the tools I could use for this exercise only, so I was mentally, but not physically prepared for this.

After drilling through the hardplate, I saw the brass end of the "Non Captured" bolt. I punched 1/2 the bolt off, due to over zealous drilling. This was enough, however. I then looked with the borescope and saw quite clearly the relock pin through the vertical carrying bar to the left of the lock. Photograph eight shows the lock body and my pen pointing to the approximate relock position. This was about 2" to the left of my bolt punching hole. For some reason, this hole was PERFECT!!

The results can be seen in photograph nine. When my drill hit the relock pin on the right side, the rotation of the

drill pulled the pin up and out of the way. This was confirmed by viewing through the lock bolt hole that I drilled.

I then used a drill bit in the center of the handle stub to act as a lever, and was able to easily hook and turn the bolt handle to withdraw the locking bar enough to get the door open.

Total time for the opening was 1 hour and 15 minutes. If I were called on to open this or any other banged up and smashed safe, I would tell the customer there were several different options and several different prices. Basically, it would cost more to Open and Repair this safe than the safe was worth new. So, I did not let the repair factor enter into my punch-open safe method.

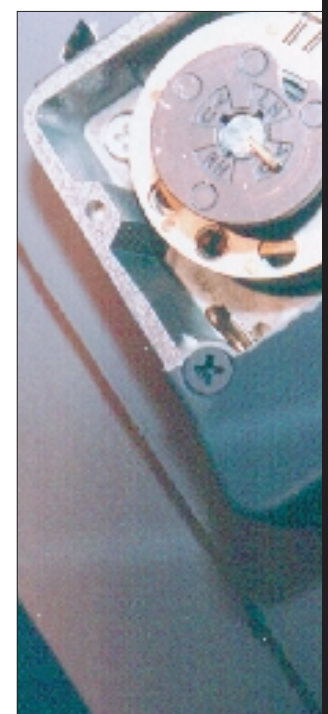
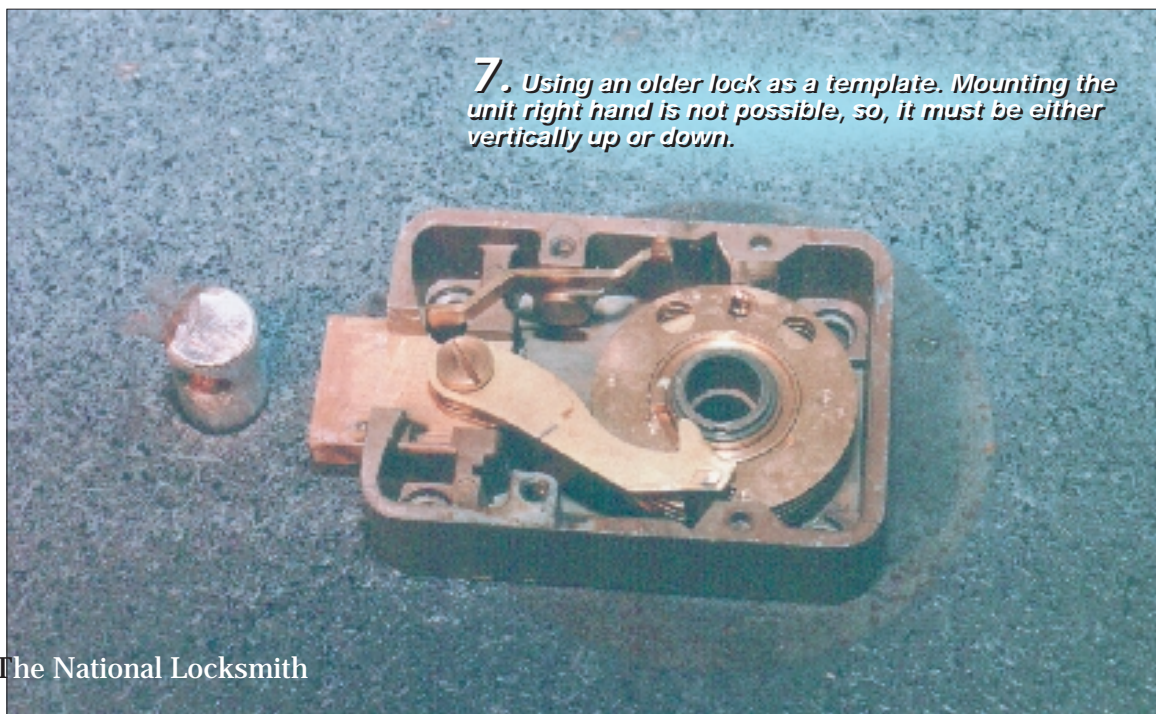
I have found that most insurance companies will cover the cost of opening the safe and the replacement of the safe, rather than the repair. A new safe on the customer's record looks better than a repaired safe, especially when you tell the customer that it will probably be cheaper to replace the unit rather than to have it repaired.

I never let the original cost of the safe or chest in question determine what I charge when opening it. The line that..."I only paid \$25 for this safe" never determines my opening and repairing costs. It should not determine yours, either.

AMSEC BF1512 Opening

The next unit to be opened taught me something new. I have never tried to punch a "Captured" combination lock bolt. When I did, I ran into all sorts of trouble. First, on to the destruction of aforementioned unit.

Photograph 10 shows me attacking the dial with the pointed end of my small 4 pound sledge hammer. When the dial and ring were fractured and shattered, I again punched the dial



spindle into the combination lock, again setting off the relocking trigger and relocking device. Results are shown in photograph 11.

After knocking off the opening handle (the handle sheared quite easily), I tried punching it in the safe. No Way! My thwarted attempt can be seen in photograph 12.

In photograph 13 I tried to pry the door and edge of the door. I was able to spread the door only about 1/2", but it remained solid. After another 15 minutes, I decided to give up and move the unit to the Libby Annex of *The National Locksmith Testing Labs*.

I did not use any manuals or book on these safes. I wanted to mess up and see if I could glean some insight into my mistakes as both beginners and experts do. Using the S&G Lock body template, I marked the safe door for a RH Right Handed Lock. I drilled an "Air Hole." I did not meet

hardplate which is a good indication that you drilled at the incorrect position. (See photograph 14.)

Using the air hole for access, I put in my borescope and saw the lock was mounted either VU Vertical Up or VD Vertical Down. I determined that the lock was mounted VD because I saw that the lock body was longer going towards the bottom of the door and shorter going VU. Look at the lock in photograph 15 and you can see that the body is longer going down. This is the view I got through the "Air Hole."

I again drilled to punch the bolt into the safe. This was a captured bolt, which means that there was a cut out in the bolt bar that completely surrounded the end of the bolt. It is hard to get a punching advantage when the bolt is supported on two ends. I will not try this again.

After 1/2 hour of punching and drilling, I got fed up with trying to punch the bolt. Peering through the bolt punch hole I had made I was able to see the relocking pin. This time it was to the right of the lock body. I was helped in this by putting an auto light in my air hole. This supplied more light to see the left of the lock. It was clear, so I concentrated my efforts to the right of the lock where I did finally see the relocking pin.

This time, too, I was right on the money. When I reached the pin, however, there was no space to pry the pin upwards. I decided to try and drill it off. This proved impossible, for the pin kept rotating and I was making no progress. Remember, the captured locking bolt had not been punched off either.



8. Templating for the VD relocking device seen through the hole used for punching the spindle.



9. Inside view of the holes used to attack the bolt and relocker. The relock bolt is being pushed back by the end of a 1/4" drill bit.



10. Hammer attack on the dial of the AMSEC safe.

I decided on the dreaded and diabolical NINJA Punching attack. I got a special oil rubbed piece of hardened steel about 2-1/2" longer than the depth of the relocker. I focused on the end of the custom made punch, and concentrated all my inner and outer power on my sledge hammer arm, and let fly.

My custom made punch disappeared into the safe and there was a single loud clang from within the unit. When I looked into the hole, the relocker was gone. when I looked in to my bolt hole, the bolt was gone.

I saw something hanging on the inside of the safe and used a long screwdriver through the bolt hole to pry what ever it was to my right. Imagine my surprise when the bolt stub moved, and the door became looser.

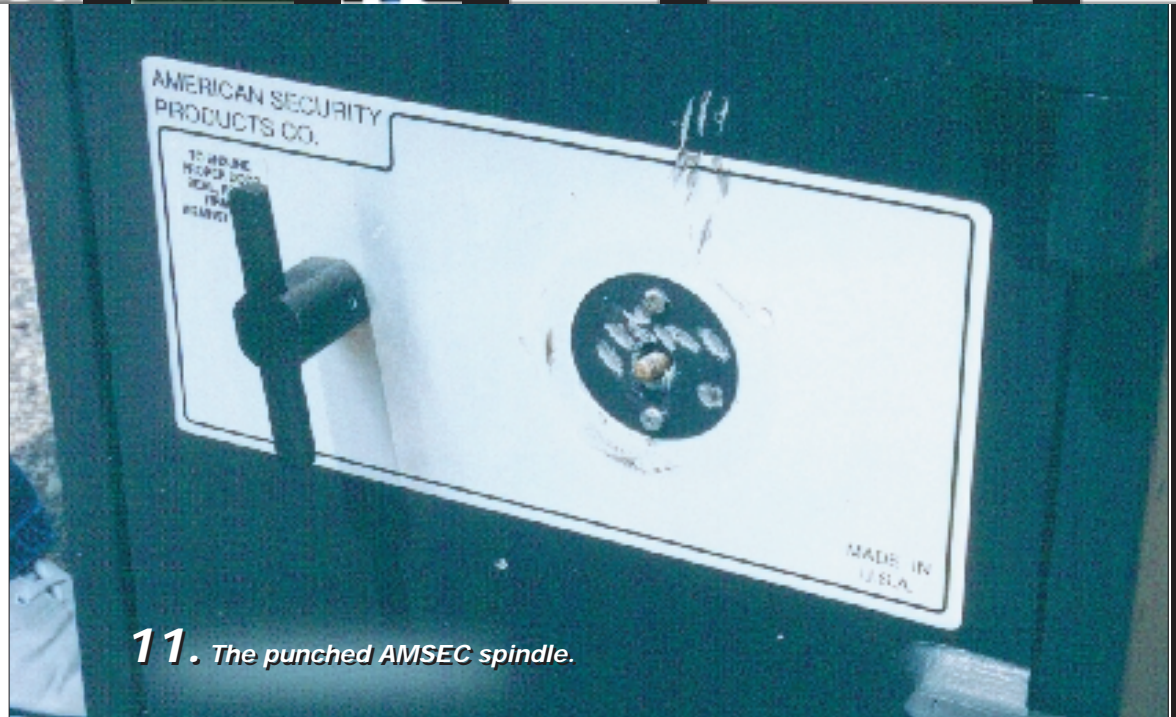
A few minutes later, the door was open. I had to take off the back cover of the door to see what had happened. This can be seen in photograph 16. I had knocked the mounting plate completely off the hardened inner plate. My NINJA attack had broken the welds that held the relocker and combination lock to the hard plate.

Photograph 17 shows an end view of the captured bolt and the relocker. I never did smash the bolt away from the lock body although the body was cracked. When the upper plate (mounting plate) came free, I was able to move the entire unit which caused the locking bolts to move enough to open the door.

Conclusions

The next time I have to open one of these punched units, I will opt for a side or top penetration, or possibly try to drill the lever screw off and move the bolt into the lock body. Trying to punch it back is a lot of hard and wasted work.

It is interesting to note that a lot of manufacturers are using either VU or VD locks



11. The punched AMSEC spindle.



12. After breaking off the door handle, Dale tries to punch its spindle into the safe.

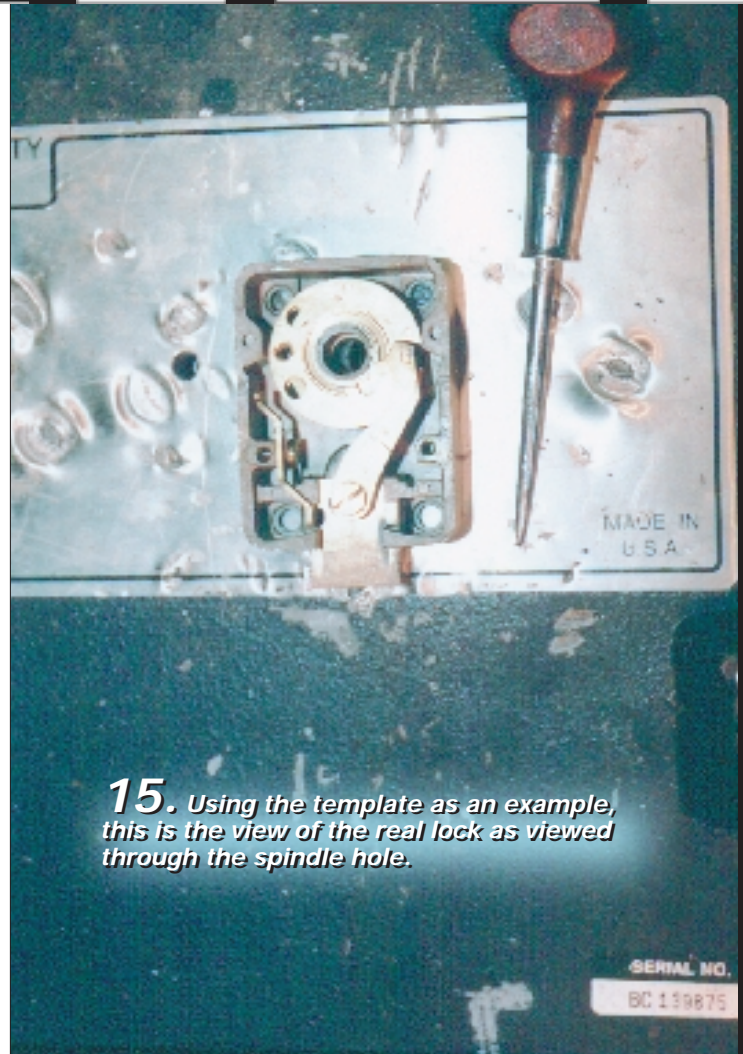


13. Prying had negligible results.

14. Using the lock body to remplate for a right hand lock. This location produced an air hole, no hardplate.

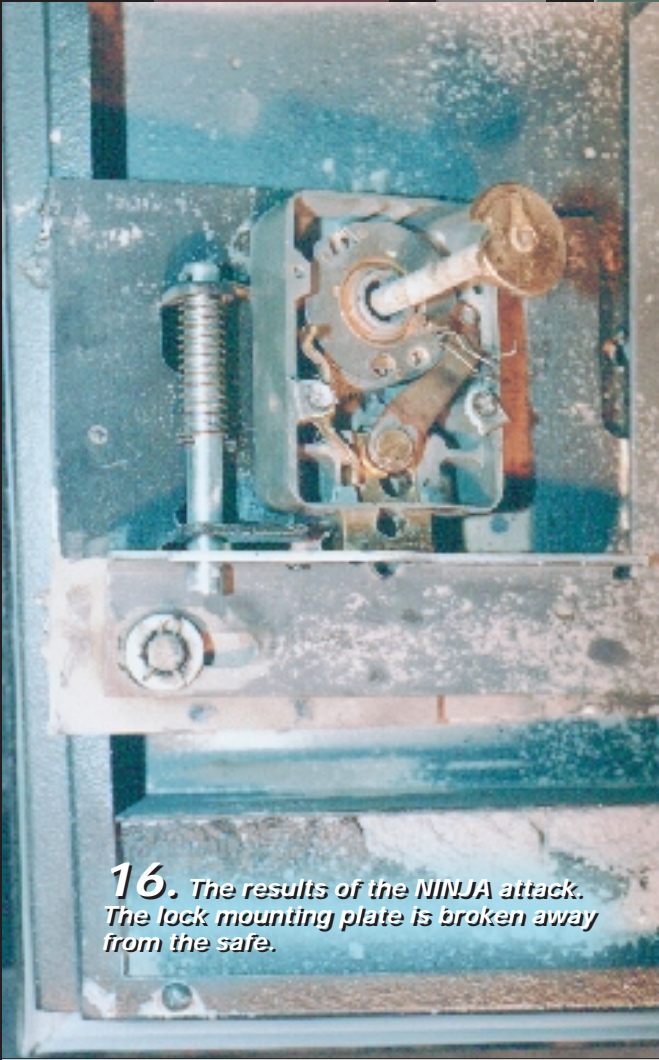


15. Using the template as an example, this is the view of the real lock as viewed through the spindle hole.



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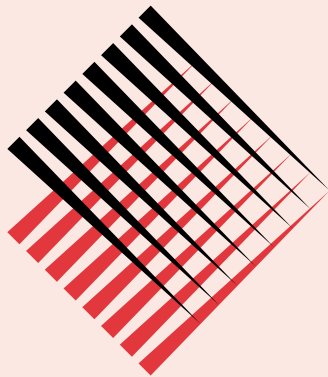
16. The results of the NINJA attack. The lock mounting plate is broken away from the safe.



17. Close up of the lock bolt and relocker. Note that the plate was moved to the right just enough to withdraw the bolt.

and the relocking device is held on by the lock back cover. The relocking device is parallel to the lock and intersects the same horizontal bolt bar that the combination lock secures.

To make safe opening easy and profitable, buy good tools, good safe books, and plan your openings for the easiest and most profitable experience. Safe opening should be fun. OPEN & PROSPER! **IRL**



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FIRST STEPS TO SAFE PENETRATION

Drilling safes demands knowledge, experience and the right tools!

Drilling a safe is an operation of safe work that is often misjudged. The careful planning, measurements, technical information, and proper equipment and training are as important and necessary to the technician as the proper working combination would be to the safe's owner. This article will cover different drill rigs and explain various drill bits from carbide tipped to cobalt.



by
Tom Mazzone

Many different types of materials make up today's safe doors. The outer skin of a safe door is usually mild steel. The fire and/or burglary rating will determine if hardplate is protecting the safe lock. Hardplates can range from ceramic, Maxalloy, Relsom, which is a carbide matrix, to other types of exotic materials. All have their own characteristics and drill resistance. Information, experience, and training are extremely important. Before any safe drilling procedure, one should be sure that the safe lockout cannot be overcome by dialing procedures, manipulation; or if it is simply not a jammed locking bolt or a stuck safe door.

After basic diagnostics are completed and drilling has become the last resort, the technician should remember that some containers may have been outfitted with tear gas. Expending a tear gas vial is uncomfortable and for some in the immediate area with heart conditions, can be hazardous. Be aware of all the possibilities and be prepared!

Now that drilling has become our form of attack and such vitals as drill point, door thickness, type of lock, and repair procedure, let's proceed.

Once we determine if direct or straight in penetration or angling in outside the dial ring is necessary to scope the wheels, we can determine which drilling rig, drill motor, and if the safe has hardplate, which drill bits and speed of drill motor to use.

Let's start with drill rigs. The least expensive are known as pressure rigs. They are simple in design and operation. The pressure rig has three parts. The rig or housing that supports the drill motor, the pressure bar and a short length of chain. The unit used for this article is the Equalizer by Lockmasters. Strong Arm Security of San Francisco California, also has a similar unit.

The drill motor is fixed into the rig securely. On the back of the rig is the male end of a quick connect coupling. When mated with the female end of the coupling, the pressure bar is allowed to swivel for the

technician's comfort and particular work area.

The chain is attached to a hook on the end of the pressure bar. The opposite end of the chain is hooked securely to the opening handle if equipped, or secured around the rear of the safe. The pressure bar with drill motor, now have a fulcrum to create drilling pressure. Approximately 35 pounds of pressure on the handle can create 500 pounds of pressure at the drill tip. This type of pressure and greater is what is needed to penetrate hardplates.

The advantage of using a pressure rig is that you can do both direct in penetration or angle in entry outside the dial ring. The beginner, who is using a pressure rig, would do well to practice some straight in drilling before proceeding to a safe in the field.

Once comfortable using a straight in drilling procedure, the technician should practice angle drilling. This is where drill point location and door thickness to lock are extremely important.

If an angle drilled hole is miscalculated, the hole can enter the lock case in the wrong spot with possibly disastrous results. A wheel can be damaged causing a jam up of the wheel pack, or if trying to direct read the wheels, the hole placement may not allow all wheels to be read.

Another possible disaster using a pressure rig is powering through the back of the lock case with the drill bit, loosening or removing the back cover. This will fire the internal relock trigger and not permit retraction of the bolt after direct reading the wheel pack.

The plus side of using a pressure rig is that if angle drilling is necessary, most fixed drilling rigs capabilities are limited to direct entry only. This limits service procedures if the dial is pinned to the spindle and the lock is an antique and parts are not available for replacement.

Practice will make perfect using a pressure rig. They are much cheaper in price than a fixed rig. Set up time is very minimal and the advantage of angle drilling is a definite plus. (See photograph 1.)

The Strong Arm fixed drilling rig is a relatively inexpensive drilling rig which comes nicely packaged in a durable plastic case. A dial puller is included as well as all the fixture attaching screws to mount the unit to the safe door.

The Strong Arm Mini Rig unit requires little set up, especially if being used with the more common locks: i.e. La Gard, ILCO, S&G, etc. The most tedious operation is the dial removal. The dial puller is affixed to the dial and secured using the included set screws. The slide hammer shaft and weight are attached, and after a few good impacts of the weight, the dial is off and the dial ring removed.

1. Locksmith Steve Stegle applies pressure using Lockmaster's Equalizer pressure rig. Pressure rigs are inexpensive and allow both direct and angle drilling.



2. For straight in drilling, the Strong Arm Mini Rig is superb.

The really interesting feature of the Strong Arm is the set of templates included for drilling. The templates are numbered for the lock type and are bolted to the door via the dial ring mounting holes.

There are several other holes which are numbered on the plate. These numbered holes correspond to a guide sheet which is also included. The holes allow you to choose your attack for a scope reading, the fence lever screw, or relock trigger. There is no guesswork or measuring. Once this plate is installed and your choice of hole application is determined, you are ready to go. Always determine the lock handing correctly before drilling. (See photograph 2.)

Your choice of drill motor and speed is left to your own choice. The rig is outfitted with a 3/8" chuck and has a large knurled knob for advancing the drill bit penetration. This knob gives good, smooth control of depth advancement.

The directions included with the kit are clear and easy to follow. The Strong Arm Mini Rig is designed for both the novice and the experienced safe technician. The unit used in this article gave us a nice clean hole and was a breeze to use. The templates are really a nice feature taking away a need for the otherwise precise measurements required when drilling a container.

Equally important when drilling a container is the use of



the correct drill bits. It should be determined, when possible, what type of hardplate or barrier material between the safe door and lock case are used to protect the lock.

There are many opinions on the subject of using the correct drill bits. High speed cobalt bits do an excellent job penetrating mild steel. They are however, ineffective against many of the exotic hardplates and carbide matrix materials in use today.

Many safe technicians choose to use carbide tipped drills to penetrate hardplate. There is a wide variety of carbide tipped drills on the market with angled tips ranging from a conventional

118 degree angle to the 130 degree angle found on the Strong Arm drill bits.

Negative rake angled drill bits is also a subject of discussion for safe technicians. It's effectiveness, in theory and for some applications has its merit, but it really does not help when drilling hardplates. Negative rake, simply explained, is when the cutting edge of the drill tip is not on the leading edge. This saves the cutting portion when drilling through a non smooth surface such as concrete or carbide matrix hardplates. When the drill bit penetrates deeply enough into the material, the complete surface of the tip is encapsulated making the negative rake feature actually ineffective. While this theory works well when a hole is first started in concrete with a hammer drill, a quality carbide tip and correct procedures will get you through hardplate.

Continued on page 54

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Continued from page 52

3. 1 - Strong Arm 130° for hardplate,
2 - 130° with negative rake,
3 - Standard 118° for mild steel,
4 - 118° chip breaker.



When penetrating hardplate, the heat generated between the barrier and the drill tip can be an effective tool. When drilling hardplate, you are actually trying to wear your way through. No lubricants should be used because the heat generated by friction will start to anneal the barrier's surface, softening it. Never stop your drill bit against the hardplate and not withdraw the drill. The bit can actually fuse itself to the work, causing the bit to break off inside the hole when the drill motor is started again.

As with anything, good quality bits are a must. There are various qualities and price ranges from suppliers such as Lockmasters, Keedex, Strong Arm Security, etc. Each brand has its own features. Personal preference and experimentation will help you to choose one.

A carbide tip which is brazed to the drill shaft has a higher melt off point than one that is silver soldered on. A brazed on tip has an 1100 degree melt off point which can really help withstand the punishing heat that is generated.

One of the biggest dangers when drilling hardplate is when too much torque is used. This can break the tip off, blocking the hole. Strong Arm bits have notches in the tip allowing the tip to fragment into small pieces, avoiding a difficult extraction. They also incorporate a 130 degree tip with special notches for auguring.

In photograph three we see different types of drill bits. Bit # 1 is a Strong Arm bit with a web thinned edge and

diamond wheel ground tip with 130 degree angle. A 130 degree angled drill bit greatly reduces pressure on the tip and increases the bits effectiveness on the hardplate.

Bit # 2 also has a 130 degree angle and diamond wheel ground but using a negative rake angle.

Bit # 3 is a standard mild steel bit with 118 degree angle. This is the type of bit you would use when drilling the entrance hole in the mild steel material on a safe door.

Bit # 4 is a bit which has chip breaker grooves. These tend to weaken when drilling hard materials, reducing their cutting effectiveness. This also has a 118 degree angle which is more suitable for milder materials.

Remember to drill your entrance hole up to the hardplate one size larger than the bit used for hardplate. This will keep the drill shank cooler by allowing more air in. It will also give more room to clear the chips made by drilling.

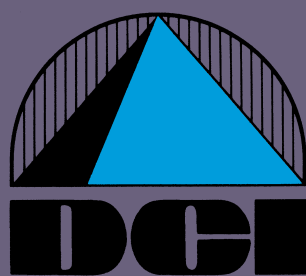
In conclusion, remember that drill bits are expendable. Change bits when their effectiveness is no longer productive. A drill bit's life cannot be predicted.

When drilling hardplates, the locksmith is working in less than optimum conditions. This can only be compared to walking into a dark room. One can never be totally sure what will happen until the safe door is open. Quality equipment, knowledge, and experience can help to equal the scales of balance.

Thanks to Bob Volosing for providing the technical information on hardplates and drilling for this article.

Also, thanks to Steve Stegle of American Lock in Elgin, Illinois for lending us his Mini Rig and posing for the photos.

INL



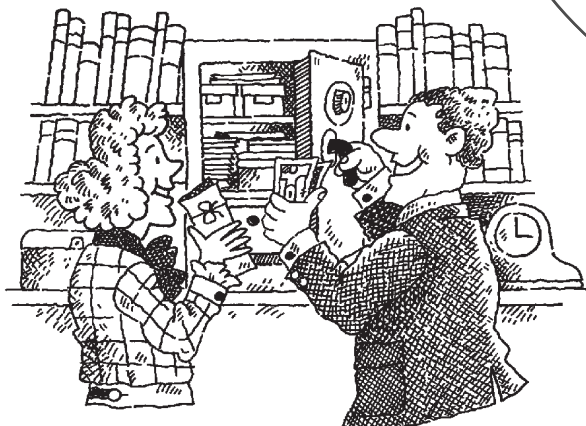
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Cover
Feature

Cash Cow Wall Safe Installations

by Tom Seroogy



The wall safe market is a virtual black hole, waiting for any locksmith to take advantage of this long overlooked profit center.

Wall safes. The often overlooked profit maker. General locksmiths often consider wall safes too complicated and time consuming to install, and reserve it for the safeman. Safemen ignore them to work on "real safes." This, of course, leaves a gigantic vacuum or void (more like a black hole) for the sale and installation of the wall safe.

This is unfortunate, as both the ease and speed of installation, and the profit potential far exceed that of deadbolts, patio door and window locks, rekeying and many of the tasks considered "easy money" by most locksmiths.

For example, the following installation of the HPC WS-200C wall safe took 45 minutes including setting up and taking the photos for this article. Considering this writer has



1. Check out the mounting location for electrical, plumbing, gas and enough clearance for the safe door to swing.



2. Because exact stud location could not be determined, only the horizontal lines were marked for cutting.



4. Place the safe in the cut out and mark the mounting screw holes.

Your choice of safe and locking option, plus your supplying distributor will effect your price. In general, however, the WS-100C (combination lock) costs around \$89.95, while the WS-200C (combination lock) runs around \$125. (This writer had pricing as low as \$111 for the WS-200C). Suggested list is double the locksmith cost.

As seen, even without charging for installation and the service call, the profit already exceeds most deadbolt installations, and (as you will soon witness) takes much less work!



5. Use a 3/16" drill bit to drill pilot holes for the mounting screws.

Now follow as this rookie wall safe installer takes you through a five step installation process.

Tools Needed

- Hand Drill
- Pencil or Pen
- Jig Saw or dry wall saw
- 3/16" dia. Drill Bit
- 1/2" Ratchet w/extension
- (4) 5/16" dia. x 1-1/4" wood screws (included)

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6. Use the mounting screws to complete the safe installation.

- (4) 5/16" dia. washers (included)

Installation

1. Determine the area on your wall where the wall safe is to be mounted. Safes are designed to fit between 16" O.C. (on center) wall studs. Note: Be aware of any electrical outlets before beginning to cut.

In this installation, inside a closet, we checked for any electrical outlets, proper stud location and made sure that the door would clear the closet rod and shelf when fully open. (See photograph 1.)

2. Use included sketches to cut out wall safe opening.

Two diagrams are included on the safe installation instructions. The smaller diagram is used for the WS-100 series safes. As we were installing the model WS-200C we referred to the larger cutout diagram for the installation.

Because the exact placement of the inside of the studs could not be determined, we marked the horizontal top and

bottom lines only. (See photograph 2.)

Then, starting at a point between the two studs, we used a drywall saw to cut the wall board following the bottom horizontal line until we reached a stud. We then cut along the same line in the other direction to locate the opposite stud.

With the inside edges of both studs located, we inserted the saw at end of the horizontal cut we just completed and followed each stud straight up to the top horizontal line. In essence, the stud served as its own cutting template, creating a straight vertical guide for the saw.

After making the vertical cuts, the top horizontal cut was made to complete the cutout. (See photograph 3.)

3. Insert wall safe into opening, previously cut out. Open door and trace circles through four holes on inside of safe so that you leave a mark on the inside of the studs. (Make sure that wall safe is pushed inside of the wall until the back side of the face plate touches the face of the wall.)

Also, make sure that the safe is visually square to the surroundings. As the safe is a little cumbersome, having another set of hands can help hold the unit square in place while the marks are made. After the marks are made, remove the safe from the cutout. (See photograph 4.)

4. Use 3/16" diameter drill bit to drill four holes into the studs you previously marked. (See photograph 5.)

5. After holes have been drilled, insert wall safe back into the wall. Place washers on screws, then insert into previously drilled holes and tighten.

Make sure that the safe remains square as the bolts are being tightened. (See photograph 6.)

Clean up, collect your money, you're done! (See photograph 7.)

For more information on the HPC wallsafe, contact an authorized HPC distributor, or call HPC at (708) 671-6280.

Thank you to Tom Seroogy, II, for helping with this safe installation. Demonstrating how easy a wall safe installation can be, Tom, 14, installed this safe with only minor help and instruction.

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7. The completed installation: Door swings free and easy; door in closed position; the closet shelf and rod are replaced.

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As institutional locksmiths become more involved with electronic security over and above their physical security responsibilities, so has their need to find a source of technical information for the trade. This Show Guide, published by The National Locksmith in conjunction with the 41st Annual American Society for Industrial Security Seminar and Exhibits, is such a source.

This year's event, being held Sept. 11-14 at the Ernest N. Morial Convention Center in New Orleans, features 125 educational sessions divided into eight tracks, including management, crime prevention, legal issues, information security, physical security, personnel, investigations and crisis management. Show promoters expect close to 13,000 security professionals to visit over 400 companies which are displaying at the event.

Keynote speakers include Dan Rather, anchor and managing editor of CBS Evening News; Ambassador Vernon A. Walters, Lt. General, U.S. Army, retired; Attorney F. Lee Bailey; and Peter Vidmar, U.S. Olympic Gold Medal gymnast.

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Secura Key is offering its SA-LINK™ Access Control Communications Software. The user-friendly terminal software is designed to allow PC-based programming and transaction reporting with Secura Key's ENTRACOMP® 27SA and 28SA stand alone card access control units.

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units, and provides easy backup and restore of program data with one simple menu. Unlike generic terminal emulation programs, SA-LINK™ monitors the communications with the SA unit and automatically performs the appropriate functions as needed. Thus, when uploading (backup) or downloading (restore) SA settings, SA-LINK™ automatically set the protocol to XMODEM and prompt for the file name to be transferred. The transfer is then completed automatically.

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ITI's Neighbor's Guide

Now ITI Security PRO dealers can leave a customized marketing tool at every home within earshot of their latest residential sale. The Security PRO Neighbor's Guide notifies the neighborhood that you'll be doing a



system siren test as part of your installation. Containing tips on what to do in the event of a real emergency, the Neighbor's Guide lets readers know you're a security professional with a concern for life safety.

Includes space for entering your customer's name, address, and phone, so you have a "letter of introduction."

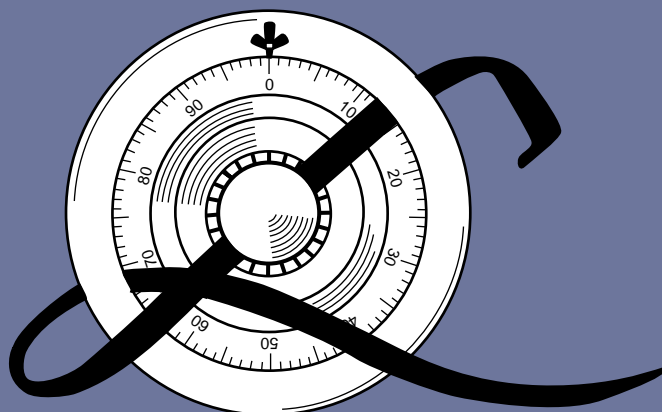
The Neighbor's Guide is printed on 8.5" x 11" wax-free prescored card

stock and can be customized using a laser printer or your local quick-print shop. Personalize The Neighbor's Guide for a focused marketing effort after your latest residential sale. The Neighbor's Guide melts the ice so your cold call won't be so cold.

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IEI's Door-Gard Software

International Electronics, Inc. (IEI) announced the introduction of its new Door-Gard Secured Series PC Software program. The new Software program allows users of the popular Door-Gard Secured Series Access Control products to remotely program user and door information at virtually any PC and download the information when convenient. The software



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program also adds the functionality of 8 Time Zones and 16 Holidays. The software runs on any PC using MS-DOS 3.3 or later.

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HOME/SLEEP/AWAY For DMP Panels

Digital Monitoring Products, Inc. (DMP) announces the HOME/SLEEP/AWAY arming feature for the DMP 1912XR Command Processor Panel. This new option provides three individual arming areas in a residential system; Perimeter, Interior, and Bedrooms. While at HOME the perimeter may be armed to allow free movement about the inside of the house. The SLEEP mode allows an extra layer of protection in addition to standard perimeter arming. During sleeping hours the perimeter and all interior mats and PIRs away from the bedroom may be armed. AWAY arming will arm all three areas when the house is empty to provide

maximum protection. The HOME/SLEEP/AWAY residential arming feature is standard on the DMP 1912XR Command Processor Panel.

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Microwave Sensors' D33 Wireless Pushplate

Microwave Sensors, Inc. has developed the D33 PRESStige Series wireless pushplate wall switch. The unit provides a switch closure at the door control to activate operation of full and low energy power doors. It is ideal for use with ADA (Americans with Disabilities Act) accessibility applications, or any switch application.

The system operates on a 9 volt battery and has a special LED (light emitting diode) to indicate when the battery is low.



The D33T Wireless Transmitter is built to last using high-impact polycarbonate plastic, the same material used in traffic signal heads and football helmets! The D33T fits a standard double-gang box for flush mounting or the optional D33M Mounting Ring may be used for surface mounting of the unit. The D33R Wireless Receiver mounts in the door header, hidden from view.

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Dedicated Micros' Desktop Surveillance

Dedicated Micros introduces a line of compact, full-featured digital video multiplexers that make desktop surveillance a practical option for the first time.



Dedicated Micros' new Sprite product line of six digital video multiplexers are housed in identical cases. Each Sprite has a footprint just over one square foot and 3-1/3" tall, and includes a built-in keyboard pitched at a comfortable angle. The innovative design enables all Sprites to sit unobtrusively on a desk.

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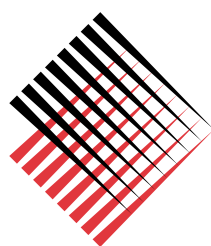
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FIND SECURITY WEAKNESSES BEFORE THEY FIND YOU

CORRECTLY DESIGNING A SYSTEM OF SECURITY REQUIRES THAT ALL THE WEAK POINTS OF A GIVEN SYSTEM ARE KNOWN.

Since most physical security devices are designed to allow regular access to authorized users, our adversaries are often able to determine techniques with which to manipulate them into the unlocked position. Becoming familiar with some of the more common defeat methodologies (and safeguards against such techniques) can improve your ability to plan security system layouts. We as security professionals are often a step ahead in this regard, since we are forced to bypass security systems on a routine basis for emergency entries and to repair inoperative systems. This obviates the fact that effective system layout alone is not enough. Preventive measures must also be instituted in order to maintain the integrity of most security systems once they are installed.



by
Michael Heide

Key operated locking systems are susceptible to a variety of defeat techniques other than forced entry. Theft of the original key, key duplication, picking, impressioning, try-out keys and visual decoding are a few examples.

An effective key control program is the best protection from unauthorized use of duplicate and original keys. Key control can take many forms, but some general rules always apply.

The number of keys fabricated for a specific lock should be held to the absolute minimum necessary. Once keys have been issued they should be closely guarded by authorized users. Original or duplicate keys should never be left in an unlocked desk drawer or lying about the workplace. Likewise, they should never be concealed in obvious locations such as atop a doorsill or under a welcome mat. Single duplicate keys are often available for controlled use by a number of employees. Standard key control cabinets are usually equipped with inexpensive disc or wafer tumbler locks. These simple locks can be picked open quickly with a paper clip and should be replaced prior to entering the cabinet into service. Key control container weaknesses are sometimes combined with lack of attentiveness on the part of employees charged with issuing keys and making notations in the key control register.

The restricted keyways available from many high security lock manufacturers can make it much more difficult (but not impossible) for an adversary to have an original key copied. Keep in mind that copying a key does not require its removal from the area in which it is discovered. Impressions of all standard cylinder (and some high security) keys can be easily obtained by pressing the cut key into a soft substance

such as Styrofoam or modeling clay. Unobserved access to the original key for only a few seconds will allow an attacker to create an impression from which a duplicate key can be fabricated. Making an impression of the end of the key identifies the blank required. Marks left by the cut areas of the key can then be measured with a micrometer or dial caliper to determine cut depth and spacing.

Some recently developed, commercially available key control systems can aid security personnel in performing key control duties. Keys used only in case of emergency can be encased in a plastic container which is then validated with an authorized signature.

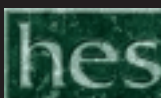
The container is a one-way device which must be destroyed in order to remove the key. This device can help prevent routine undetected use or duplication of emergency keys. A microprocessor based key control cabinet which combines high security internal control cylinders and tamper-evident key rings is also available. (See photograph 1.)

Users input a personal identification number (PIN) at the cabinet's keypad. The cylinders protecting keys to which the individual is allowed access then unlock for a brief period. This enables the user to remove the high security key to which is attached the tamper proof key ring containing the user's keys. The system offers selective access and a hard copy audit trail of key ring removal and replacement.

When standard type (non-high security) key operated locks are used in a facility, masterkeying should be avoided if at all possible. Locks which do not incorporate a secondary obstruction at the shear line (such as a sidebar or interlocking pins) are more susceptible to a picking attack



Photograph 1
This electronically controlled key cabinet is an excellent means by which to gain control over keys and their use.



when masterpinned. The addition of master pins provides an attacker with more possibilities for creating separations at the shearline in individual pin chambers. (See photograph 2.)

Standard pin tumbler locks can also be set up to resist picking through the inclusion of pick resistant "mushroom" or "spool" type top pins.



SCHLAGE PRIMUS



ASSA TWIN 6000

Photograph 2

The use of high security keying systems help enhance the security of most key based security systems. The locks pictured here, include a sidebar and finger pins or sidebar pins to deter easy, surreptitious access.

Supplemental keyway blocks are available which can be used to completely enclose key-in-knob sets. Other variants slide into place over the faces of rim and mortise cylinders.

These devices can be used to discourage drilling, picking, impressioning, visual decoding and duplicate/tryout key insertion.

They can also prevent damage to the protected cylinder caused by insertion of foreign objects into the keyway. All feature sturdy construction. Double sided wafer tumbler and easily re-codeable magnetic keys are commonly used as the secondary controls. Active alarm systems are always an option. Alarming doors on which key operated locks are installed allows for immediate notification of security personnel when a secured door is opened. Alarms present

potential intruders with an additional (and often technically complex) stumbling block to be overcome. Alarms can be set to annunciate (signal an intrusion) either locally, or at a remote central station used to monitor a number of alarmed areas.

Inexpensive local signaling systems can be constructed from a pressure sensitive/contact switch, a DC power supply and a bell/buzzer. Due to their simple construction, they can normally be installed and serviced with a minimum of difficulty.

For infrequently used keyways, the answer to both deterrence and detection may be a visible tamper-indicating system such as a label seal affixed over the keyway to prevent access. When lifted, the most common type label seal will show a message such as "void" or "opened" across its face. The drawbacks of conventional tamper-indicating systems are that they are weak physically and passive by nature. All require routine physical examination in order to insure their integrity.

The integration of secondary protective strategies with basic security hardware such as key operated locks is a must when upgrading or planning facility security. In some instances, simple user education may be all that's required. Whether the locks in

question are used for internal or external security, the additional safeguards you incorporate can help insure that they are not being routinely bypassed in a generally undetectable manner.

Sales and service agreements which result from simple upgrades to existing hardware can be big money makers. Your customers will benefit from the increased level of protection you are able to provide. You in turn, will experience increased customer satisfaction; and customer confidence in your ability to address and preclude a wide range of often overlooked lock bypass scenarios. **TNL**

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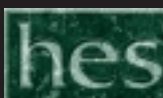
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\$\$\$ HIGH SECURITY \$\$\$

\$ \$ \$ HIGH

Add an additional \$10,000 to your bottom line

by Tom Seroogy

Excluding the small number of locksmiths that specialize in niche fields (auto, safes, access control, etc.), rekeying or installing a deadbolt and/or knob is an everyday happening for a locksmith.

Still, despite the ever expanding opportunity, lack of simple marketing

skills and not taking advantage of opportunity, finds a significant number of locksmiths settling for a lower income while performing the same amount of work. The opportunity? High Security!

How much is being missed?

I know that we can all argue about



1. Using a dual locking system, the Schlage Primus high security cylinder allows integration into existing keying systems. This offers the locksmith a high degree of versatility while upgrading a system to high security. Contact a Schlage distributor for more information or call Schlage at (415) 467-1100.





SECURITY\$\$\$

doing the work you're already doing, by doing it with high security.



2. Medeco is known for its unique sidebar-rotating tumbler high security locking system. The tumblers have a wedge shaped tip that rotate to rest on the angled cuts of the key. When the proper key is inserted, the pins line up at the shearline and rotate to allow the sidebar to drop into position as the plug is turned. Medeco offers a variety of security levels and systems for the locksmith. Contact a Medeco distributor for more information or Medeco at (703) 380-5000.

Continued on page 64

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Continued from page 61

3. Employing magnets as tumblers, MIWA offers a fairly non-traditional approach to attaining a high security lock. While simple in design and operation, key blanks and the necessary equipment are restricted to authorized dealers only. For more information contact MIWA at (702) 452-4110.

how much we should and shouldn't charge for a deadbolt, and that prices change from one area to the next. However, to keep things simple, the following figures are based on averages from the suburbs of a major Midwest city (most from one or two man shops). These prices are for example only, and may or may not reflect pricing conditions in your area.

That stated, the average cost of installing two single cylinder deadbolts, including service call, is \$125. Based on an average of three installations per week, 50 weeks per year, the expected annual income from 150 installations is roughly \$18,750. Not bad for a small shop.

Now, let's play with some numbers. The same installation (service call, two single deadbolts) using high security deadbolts averaged \$355 per installation; about \$120 more than using standard deadbolts. If marketed correctly, in large cities, high security lock installation and service can be 30 percent or more of a locksmith's lock business. In income, if we substitute 30 percent of the installations with high security locks, the annual difference is over \$10,300.

Granted this is a gross and not a net income difference. However, despite the higher product cost of the high security lock, the profit margin is almost double that of a standard deadbolt, plus installation is generally higher.

But what about those in the outlying suburbs and rural areas. Okay, let's reduce the percent of high security sales from 30 to 20. Based on the above figures, one can expect an annual gross increase of almost \$7000. At 10 percent, an increase of \$3450 is realistic.

It should be noted that the higher

profit margins of high security rekeying and key cutting is not added in the above figures. Profits from these services alone can be substantial.

Systems

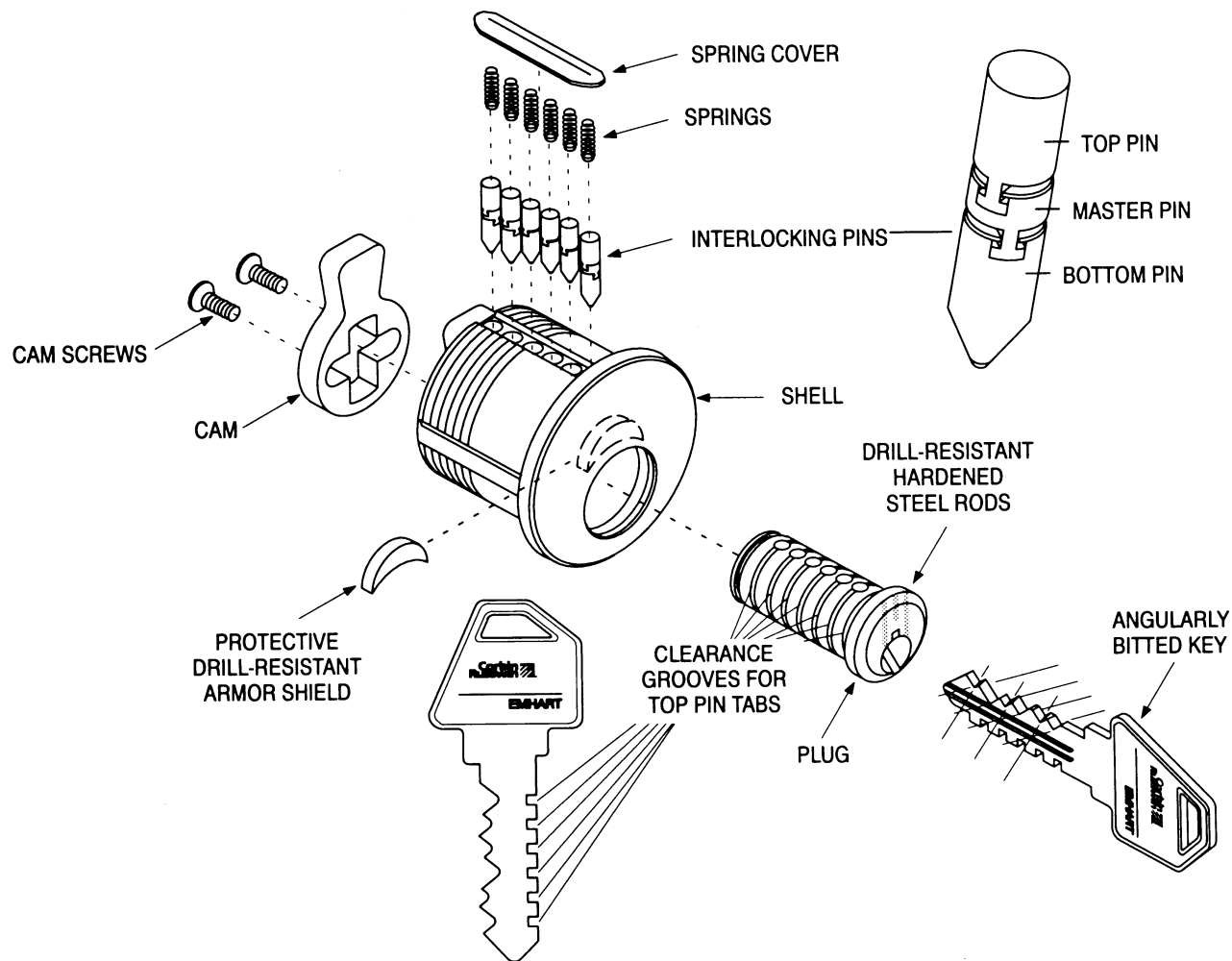
A few months ago *The National Locksmith* ran a series of Test Articles on the different high security systems available to locksmiths. (January through June of 1995) As such, instead of covering each lock manufacturer, we'll try and cover some of the options available to the locksmith.

In all high security applications,

there is the question of what it is that needs to be accomplished. Is the customer simply looking for better key control? Is there a concern over surreptitious and covert entry? Or, is there even concern for force entry? All are separate, yet, often intertwined problems that high security lock systems can solve.

Distinguishing from high security, maximum security focuses on the physical strength and durability of a system. Prisons and detentions have many areas that are maximum security. The locks, doors and walls are built for abuse.





\$\$\$ HIGH SECURITY \$\$\$

4. Corbin Russwin's high security system incorporates rotating tumblers that interlink with one another. The key is highly distinguishable by the ward cuts found along the bottom of the blank. These wards or notches allow the key to rotate past the interlocking tabs of the top pin with the plug is turned. For more information contact a Corbin Russwin distributor or call (800) 543-3658.

When specifying for a customer's security needs, if a concern includes forced entry, the lock should be U.L. 437 Listed. This listing assures that the lock is designed to deter various types of entry methods including drilling. Most notable is the use of anti-drill plates and pins for protecting the shearlines from a drill attack.

If forced entry is not a concern, non U.L. 437 Listed cylinders can be used. These cylinders guard against impressioning, picking and unauthorized key duplication, and other forms of covert and/or surreptitious entry.

For most applications, concern is primarily on key control. Here too, manufacturers offer various levels of control on keys and keyblanks. You

can provide customers anything from simple, hard to duplicate, commercially available keyblanks, to the much more controlled proprietary keys and keyways. For convenience, high security systems by Schlage and Corbin Russwin can be integrated into existing key systems.

While there is no clear cut way to divide the methods used for attaining a high security status, two approaches are generally used, and often overlap. One method is to create and patent a keyway. The availability to the key and lock are limited by the manufacturer's means of distribution. While there are vast technological differences between them, many high security lock and key manufacturers follow this route.

On the other side, some

manufacturers use a new technology or a twist on an existing technology to attain a high security lock. MIWA, for example, employs the use of magnets instead of pin tumblers; Mul-T-Lock has a unique telescoping pin tumbler arrangement.

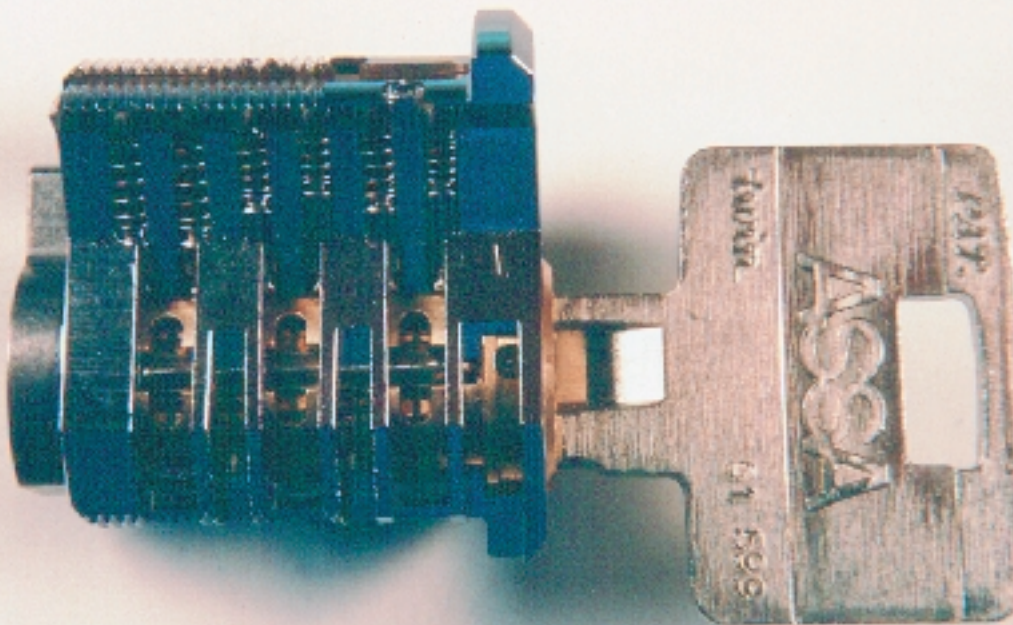
Most manufacturers, however, utilize both measures to effect a high security system. Medeco uses angle cuts and rotating pins with a sidebar. Schlage Primus, ASSA and Winkhaus incorporate a sidebar operated by finger pins or sidebar pins that ride on a broaching cut on the side of the key. Corbin Russwin uses rotating, interconnected pins to achieve high security.

All of these systems have

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5. ASSA offers varying high security systems including the Twin 6000. The sidebar of this lock is activated by the side pins that rest on a broaching cut on the side of the key. By switching the sidebar to the other side of the lock and using a "sister" blank, the same conventional bitting can be used. For more information contact an ASSA distributor or call (718) 927-2772.

you have the skills, if you have the product, then advertise it. If you have a shop, provide displays of the product that the customers can see and handle. If a mobile service, provide brochures and/or take samples.

Approach is important. I'm sure most of us would agree that it's much simpler to ride a bike down hill than up hill. It's the same way with sales. Start your customers at the top. Explain the benefits and advantages of high security systems. Then, if they don't bite, and the price is the only factor, move them down. Your chances of landing the sale are

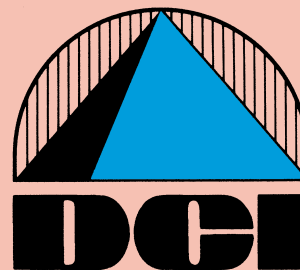
advantages and disadvantages for any given application. As locksmiths, become familiar with all of them, buy into a couple that best service your customer base, and learn as much as possible about the use of the systems you have chosen.

Go For It

Of course, having all the right stuff

is not going to help you convert any of your lock sales to high security unless you want to. Knowing about, and buying into the various systems won't make the locksmith money without the right approach and marketing. Locksmiths, unfortunately, tend to have all the right product and skills, but forget to tell people about them. If

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6. With successful markets on the east coast, Mul-T-Lock is fast becoming a new contender in the high security market. The Mul-T-Lock system utilizes a unique "pin within a pin" telescoping tumbler. The key uses dimple cutting with two cuts per dimple. A larger cut is used by out pins, while an inner cut is used by the telescoping inner pins. For more information contact Mul-T-Lock at (800) 562-3511.



not only much greater, but you are now opening the doors of opportunity by tapping into those customers that want high security.

With the right focus, the right drive and the right marketing, turning 10, 20 and 30 percent of your lock sales into the more lucrative and profitable high security sales is waiting for you. Good Luck! 



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BUSINESS BRIEFS

News from the Locksmithing Industry

INDUSTRY INTERVIEW...

Harry C. Miller and safes. A man and an industry that are, for the most part, synonymous. Former President of Sargent & Greenleaf and founder of Lockmasters, Inc., there are few safe technicians and locksmiths that haven't, in some way, been touched by Miller's work.

Currently retired, Miller is noted for his willingness to share his knowledge and experience with other safemen, and being modest to the core. The National Locksmith recently had opportunity to interview Miller.

Mr. Miller, can you tell us a little bit about your beginnings in the safe industry?

I started as an apprentice in bank vault erection for Diebold in 1924. There were considerable orders for new bank equipment in the late 20's. So, despite my young years, I soon had the responsibility for the entire installation of the bank vault. Such as rigging, hiring ironworkers, erection, and finishing of the entire vault.

For you, what has been the most enjoyable part of your work?

I have had a full and enjoyable life. I have been fortunate to work in my early years with the best and most experienced men in our industry. The knowledge gained was rewarding and gratifying.

what has been the most challenging of this industry for you?

Locksmithing has a very broad base. To be proficient in many of the facets, one must constantly study, learn and take courses to improve. Some of the desirable knowledge is keys and key locks with masterkeying, learning to install dead bolts, mortise locksets, service and installation of alarms, safe and burglar chests as well as opening and servicing them. It seems that a lifetime in the trade is not enough to learn it all well.

What change have you seen take place in our industry over the years?

Education and learning are emphasized much more today. National and local associations,

specialty associations as well as the industry magazines are good examples of active groups trying to make available learning and information of service and installation techniques. I first learned to open safes using a half inch drill and using candles and mirrors and piano wire to probe and feel things. Now, we have grain of wheat lights and small scopes to view and work with the inner workings of locks.

Having been in this industry for a long time, Mr. Miller, what direction do you see it taking, and how does it effect the locksmith?

Our industry has consistently grown and improved over the years. Whether it be locksmith, distributor, security professional, or lock manufacturer, improvement and growth has taken place. Each has had the opportunity to have benefited in and by the expanse during their tenure. This opportunity will continue for those striving to take advantage of improvement.

Consistent improvement in sales and growth have been available to locksmiths. More locksmiths are operating their shops with a broader base. Residential, automotive, commercial, in addition to gradually expanding into safes and safe deposit work. More of the locksmiths are seeking expansion by preparing themselves through training and educational courses.

The future of every locksmith is dependent on his knowledge in his field, and his ability to do an outstanding job in all segments of locksmithing. Have a good presentable shop, be prompt, courteous, reasonable in price and conscientious in their relationship to and with their customers.

What do you think the future holds for the locksmith?

The locksmith has the opportunity to be a success in business if he is a tactful business person, competent in his work and attentive to his customers.

T: And how can the locksmith best serve his customer?

By doing his job sincerely, honestly and fairly.



Harry C. Miller



Synonymous with safes, Harry C. Miller, then President of S & G, teaches a lock manipulation course.

Mr. Miller, I want to thank your for your time and insight. What last words of advice do you have for the locksmith?

The locksmith should put his heart in his business and work, work, work.

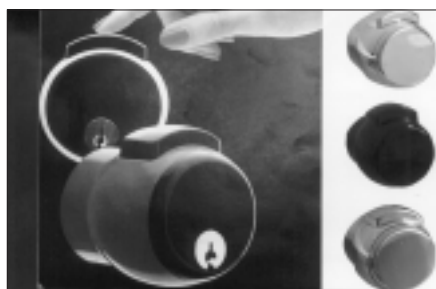
TNL



HPC is proud to announce the **6th** winner in their monthly Codemax™ drawing. HPC has awarded a Codemax™ computerized key machine to **Garry Felker** of **Everfast Lock & Key in Irvine, California** on **August 1st**. It was purchased through **Clark Security Products in San Diego, California**. HPC will be awarding a Codemax™ to a lucky locksmith every month through February 1996. To qualify, locksmiths simply need to purchase any 1200 Series Key Machine and send in their registration card along with a copy of their distributor invoice to HPC. Once this is done, they will automatically be entered in the contest. Entries will remain eligible until the conclusion of the contest. A total of over \$47,000 will be awarded. There are still **six** more chances to win.

Architectural Products by **Outwater, L.L.C.** of Wood-Ridge, NJ is the U.S.A. distributor for a secure "push to open" door lock system. The Meroni lock line from Italy features specially designed units that are recommended for use where barrier free access may be required

(i.e. hospitals, physical rehabilitation institutions, many businesses, commercial and industrial facilities, etc.).



Securitron Magnalock Corporation announces its the **TSB-3**, is now Recognized by Underwriters Laboratory. Previously, the TSB-3 was UL listed in combination with Securitron Magnalock® series of electromagnetic locks. The new test



program evaluated the use of the Touch Sense Bar with magnetic locks made by others thereby broadening the potential uses for the TSB-3.

Security Door Controls (SDC) has announced that its electric

locks and access control products will be distributed nationwide through **Sprint/North Supply**, according to **Richard Geringer, vice president**.



Jules De Luca (left) retires after 50 years of service with the M. Taylor Distributing Company in Philadelphia. **Don Amole** (right) congratulates Jules upon his milestone.



JLM Wholesale is now offering the new **Security Door Controls 500 Sure Exit**. The SDC Sure Exit is a request-to-exit push bar that uses a new concept in access control switching technology.

Reed Grote has joined ITI as **Vice President of Dealer Sales**, taking over for Lou Sepulveda who was assumed the duties of **VP of Security Pro and Dealer Development**. TNL

Locksmith Literature

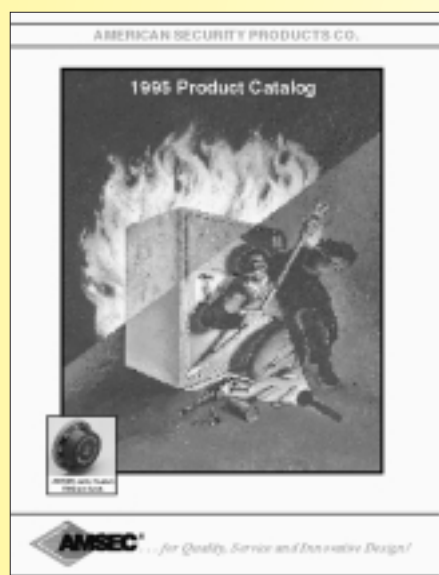
H.E.S. Quick Reference Flat Wall Catalog

H.E.S. offers an attractive full size wall poster, designed like a flat quick reference catalog. This poster shows the relationships between the various types of locksets on the market and the different electric strike models offered by H.E.S. Free.

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American Security Products Co. 1995 Product Catalog

AMSEC's new 1995 Product Catalog provides complete features and specifications on the industry's largest selection of high quality security safes.



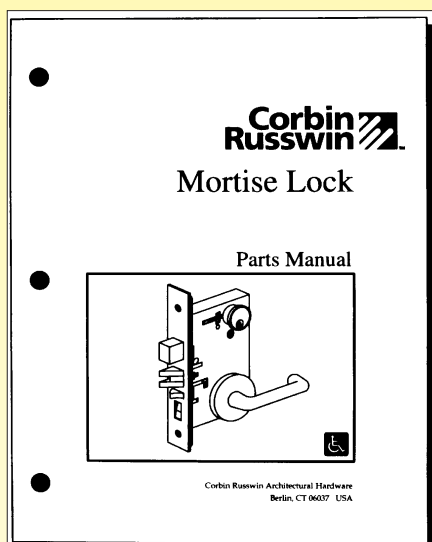
The 40 page colorful catalog offers valuable information on selecting the correct safe to fit your exact security requirements.

AMSEC's comprehensive product line consists of standard and custom design safes constructed in every insurance rating from "B" rate to U.L. Listed TL-30 high security safes. Free.

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Corbin Russwin ML2200 Mortise Lock And UT5200 Unit Lock Manual

Corbin Russwin fully revised edition of the ML2200 Series Mortise

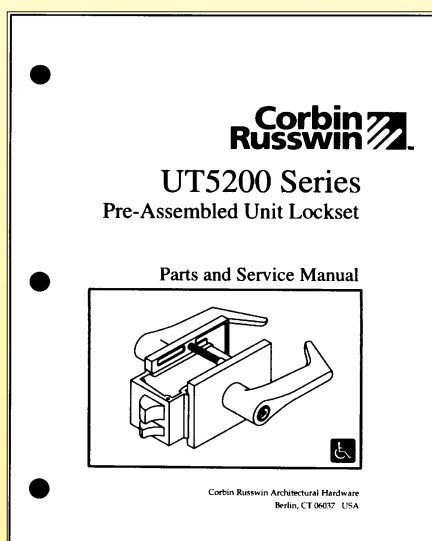


Lock Parts Manual updated to include the new catalog nomenclature, new functions and designs, and a cylinder collar application table based on door thickness.

Also available is the Parts and Service Manual for its UT5200 Series Unit Lock.

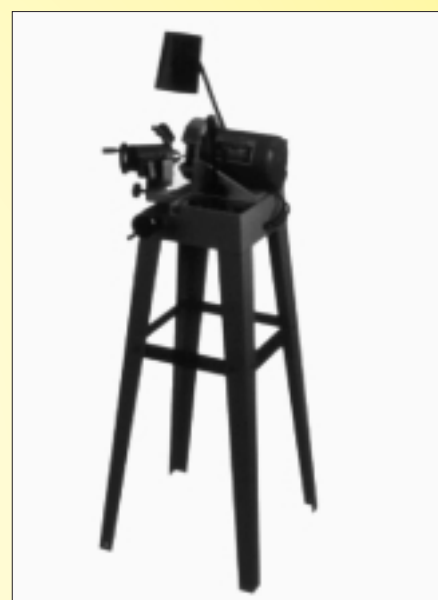
In addition to complete parts information with full exploded views by function manual features instructions on cylinder removal (including older models), re-handing, trouble shooting, and routine maintenance. It also includes a nomenclature conversion chart, and historical notes. Free.

For **FREE** Information
Circle 393 on Rapid Reply



New Darex Corp. Product Guide And Newsletter

Free product guide from Darex is now available. Sharpener operation, capabilities and benefits are described in detail in this full color 24 page catalog.



Also included with the product guide is "Sharp Tips and Ideas" a newsletter for cutting tool users. Items in the newsletter include frequently asked cutting tool questions. Free.

For **FREE** Information
Circle 394 on Rapid Reply

1995 Catalogs From Zero

Zero International's intumescent door seals are featured in the company's new 32-page catalog for 1995. The catalog provides schematics for the company's specialized sealing systems for doors and windows. Hundreds of components and integrated systems designed by Zero

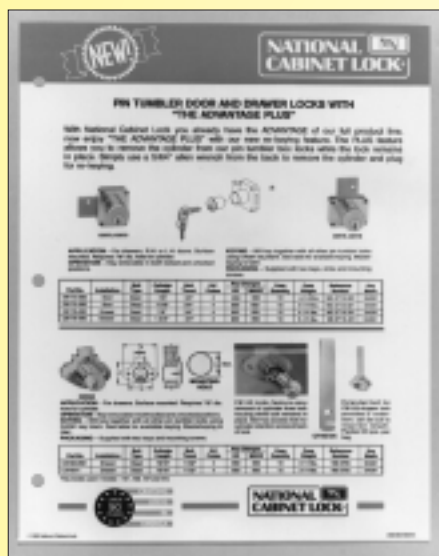


are included for stopping light and air infiltration/exfiltration, fire, smoke and sound at door openings. Zero's solutions for satisfying ADA detectable warning requirements are also highlighted along with systems to facilitate handicapped access, and sound control. For assistance in specifying Zero's heavy-duty, high-performance door hinges, the company offers a separate 4-page catalog. Free.

For **FREE** Information
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National Cabinet Lock Catalog

National Cabinet Lock has published a catalog sheet on its line of "Advantage Plus" pin tumbler door and drawer locks.



Literature sheet 680015 covers dimensional and installation information on box locks and diamond-back locks for drawers and doors. The sheet also describes masterkeying options and extended bolt availability. Free.

For **FREE** Information
Circle 396 on Rapid Reply

Richardson Electronics' New Catalog

Richardson Electronics released their 1995 CCTV & Security Equipment Product Selection Guide. The updated layout is full of vital information including detailed product specification information for most major manufacturers' products, quick technical tips and short articles addressing specific areas such as multiplexing, fiber optics and telephone line transmission systems. Also included are some specific hints regarding

sales and marketing in the CCTV marketplace. Free.

For **FREE** Information
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PointGuard™ Brochure From Litton

Litton has developed a color brochure that describes PointGuard™, the Card Access Control System for one to 16 doors. This four color brochure describes what each of the system's components do and how they work together in proving a versatile,



easy to use card access control system. The piece is designed as a sales aid to be used by dealers as they describe the system to potential end-users. Free.

For **FREE** Information
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Alarm Lock's SirenLock™ Door Alarm Specifier's Sheet

Alarm Lock is proud to introduce the PG30 and 21E/21 Specifiers Sheet (part #ALA100A), the first of the new attractive specification sheets to be released from Alarm Lock. On the



cover an eye-catching photo of the PG30, PG21E and PG30KPD illustrate these exciting door alarm products, installation information, ordering information and the accessories available. Free.

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GRAB ON TO PROFITABLE LEVER LOCK INSTALLATIONS

Using a template or guide to install lever sets makes the job easier, faster and more profitable.

With the passage of the Americans with Disabilities Act (ADA), the demand for cylindrical lever sets has skyrocketed. (See photograph 1.) Unfortunately for the locksmith, most new construction installations are completed by the builder or contractor. The locksmith is left with replacing existing, non-compliant hardware.



by
Steve Gebbia

Still this is no small market. Every store, school, church, office building,

warehouse, or government office should have at least one opening that is ADA-compliant. In many cases, several doors will need to be in compliance. Are you ready to handle this extra work? Make no mistake - the demand is there. Your task is to find a way to do the job in as efficient a manner as possible.

Replacing a standard cylindrical lockset with a lever set is really not difficult. The door preparation for a cylindrical lever set is very similar to a standard cylindrical set - with one exception: the lever set has two anti-rotation posts that help stabilize the lock in the door. This means that two additional holes must be drilled

through the door to accommodate the posts. A problem develops because these holes are very close to the edge of the crossbore, and it's difficult to prevent the drill bit from wandering into the crossbore.

The easiest solution is to use an installation guide. Many manufacturers carry guides for this very purpose. Schlage, for example, offers a nice little unit for fitting their lever sets. The unit is made of plastic, is inexpensive and does a fairly good job for light jobs where only a few units are installed. On the other hand, more rugged units that hold tight tolerances over repeated use can also be purchased. In any case, when



1. Unlike knobsets, a lever, like the one above, typically includes two or more support posts.



2. This and several other doors on this local business required lever conversion.



3. Drill edge and crossbore holes.



4. Place the HIT-1 guide over the crossbore.

installing or retrofitting a lever, drilling the support post holes using a guide or template will enhance the speed, accuracy and profit of that installation.

For the lever installation of this article, we will use the HIT-1 by Major Mfg. The HIT-1 (Hardware Installation Tool 1) is designed for the express purpose of locating and drilling the required holes for the anti-rotation posts. This tool works for both Schlage and Arrow heavy duty lever sets. It also works for certain off-brand locks with similar hole patterns.

For our job a local business had several similar interior doors that required handicap access. (See photograph 2.) The customer was given a choice of several different brand locks. The advantages and disadvantages of each was explained to him. Because of budget constraints, he chose to have imported lever sets installed. While not as heavy-duty as domestic Grade 1 sets, these are more than adequate for the type of usage these doors receive. The anti-rotation

posts are located at the 12 and 6 o'clock locations - similar to the Schlage D series lever sets.

Installation

1. Remove the existing lock and latch from the door. If this is a new installation, locate and drill your crossbore and edgebore as you normally would. (See photograph 3.)

2. Disassemble the HIT-1. Remove the Allen bolt and the smaller, flat plate. You will notice that each half of the tool has a large bushing that helps center it in the crossbore.

3. Install the tool to the door. (See photograph 4.) Hold the larger plate up to the door, centering the bushing in the crossbore. Place the smaller plate against the other side of the door also centering its bushing within the crossbore. Now, insert the Allen bolt and tighten until snug. Do not over tighten.

4. Carefully drill completely through the door. The larger plate has bushings that guide the bit at the proper locations. For Schlage and

similar locks, use a 5/16" bit in the holes at the 12 and 6 o'clock locations. (See photograph 5.) For Arrow and similar locks, use a 3/8" bit at the 2 and 8 o'clock positions. These bushings help guide your bit, but you must still be careful to drill straight. The smaller plate acts as a backing to prevent tear-through and splintering as the bit exits the door.

5. The next step is to drill the small holes for the locator tabs on the mounting plate. Using a 5/32" bit, drill 1/2" deep holes at the 3 and 9 o'clock positions on both sides of the door. (See photograph 6.)

6. Remove the tool and examine your holes. Clean any rough edges with a file or rasp. (See photograph 7.)

7. Install the latch unit.

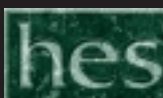
8. Install the lock chassis and outside trim. This lockset uses one pair of screws to secure the housing and another set of screws to secure the spring cage/rosette assembly. Photograph eight shows the lock's housing installed along with the two screws that secure the housing.



5. Now drill, using the correct guide holes for the lock.



6. With the support post holes drilled, drill holes for the locator tabs.



7. Door with completed support post and locator tab holes drilled.



8. The lock housing and back plate are installed.

Notice that the locator tabs are seated in the 5/32" holes at the 3 and 9 o'clock positions. Notice, also, the holes at the 12 and 6 o'clock positions.

These are for attaching the spring cages. The other small holes are for additional screws that help stabilize the lockset.



9. Inside spring cage attached.

9. Install the inside spring cage assembly. (See photograph 9.)

10. Install the inside rosette and lever. (See photograph 10.)

11. Install the strike plate and check for proper operation.

Now that this lever set is installed, your job here is done. Or is it? (See photograph 11.) You still have 10 more lever sets to install at this facility. No sweat! With a good guide the job time has been drastically reduced. What would have taken most of the day, now takes only a few hours. Using the proper tool has not only made the job easier, it has also saved time on the job.

Use of an installation guide tool for installing lever sets saves time, makes the job easier, and allows for a greater profit margin due to less time on the job. It is simply the most efficient way to install these locksets. With tools like these, you should have no qualms about taking on complete updating of hardware in any size facility. **TNL**



10. The inside rose and lever handle installed.



11. This installation complete, there's only 10 more to go.

LIGHTER SIDE

I'll Never Forget Old What's-Her-Name

"Now, where did I put my picks?" Don rummaged through a group of papers on his desk, looking.

"Did you ever remember who it was you were supposed to call, this morning?" I asked.

"Hey, Don," Dave called from the next room, "don't forget to adjust this key machine, before you get away from here."

I could feel the tension building.

Don and I have this pact: I help him find things, and he helps me remember things. It works pretty well, so long as we're "hitting on all cylinders," but on days like this one, nothing seems to go right. That's when the quotation, "Of all the things I've ever lost, I miss my mind the most," becomes a little joke between us.

I guess we all suffer memory lapses at one time or another. Some of us even have vast categories of information we have trouble remembering.

With me, it's people's names.

I will usually remember where I met a person, what we talked about, even minute details about them, but their names often elude me.

I've tried all the standard means of recall, including calling them by name several times while with them, introducing them to others while their names are fresh in my mind, associating their names with their physical features, making a mental numerical list of the people I meet and tying their names to outlandish visual images of the corresponding numeral, etc., etc., etc., but to no avail. I may manage to remember



by
Sara Probasco

their name until they are out of sight, but then it slips away.

Once in a while, someone's name will stick in my mind like glue. Paradoxically, it is usually someone whom I may never meet again, or for some other reason have no pressing need to remember their name.

Add to my problem the fact that I am often in the public eye by means of my writing, seminars, and public speaking (not to mention working in our locksmith store), and I often find others know my name when I have never had occasion to learn theirs.

I remember well the year I took a memory-by-association course. Convinced that it was a solution to my problem, I took every detail to heart. Every time I met someone new, I would link their name to something I already knew in the method described in the course.

One man I met during this time was named Vassar Hemphill. An unusual name; one you would expect to remember, right? But I was leaving nothing to chance.

I called the man by name several times during our conversation. Then I introduced him to others a time or two. Next, I connected his name with something familiar. In this case, I thought of the women's college, Vassar, and a local pharmacy by the name of Hemphill's Drugs. Finally, I visualized the man lying on a grassy commons, surrounded by collegiate women, while snorting drugs through his prominent nose. Easy enough.

When I ran into the man a few weeks later, I paused, conjured up the mental image, and confidently introduced him to someone as Newcomb Walgreen. (Newcomb is another women's college I knew about.)

So much for memory by association.

I guess the problem runs in my

family. One notable example of this occurred my junior year in college. My father and I were part of a receiving line at a very large reception. As guests came down the line, my father would introduce himself, shake the guest's hand, then turn towards me, saying, "And may I present my daughter, Sara." This had literally gone on for an hour or more, when Daddy shook hands, turned towards me for the 5,243rd time (or some such), and said, "And may I present my daughter,"

His face went blank. Panic filled his eyes. After twenty years and an hour of virtually non-stop introductions, my own father had suddenly forgotten my name! Fortunately, his lapse was only temporary.

At a recent high school class reunion, I learned that it's difficult to be nostalgic, when you can't remember anything.

Perfect strangers kept approaching me, reminiscing about all the good times we'd had "back when."

I also learned that I am not alone in my affliction. One of my former classmates (whose name escapes me) joined us at our table. Talk drifted around to who had dated whom during those long-lost formative years. The guy began talking about his own first brush with true love, as a high school senior. However, he never named the object of his affection.

"She was a great little gal," he finally said. "I'll never forget old What's-Her-Name."

Don rarely has this problem. First, he makes a point of asking a person's name, up front. (This is something I often neglect. After all, my subconscious tells me, if I don't get the name in the first place, how can I be expected to know it later, right?)

Second, most people whom Don meets are business related: customers, suppliers, or fellow

Continued on page 129

Strike Three = A Home Run

Only Jake could turn three strikes into a home run.
Let's follow him and find out how!

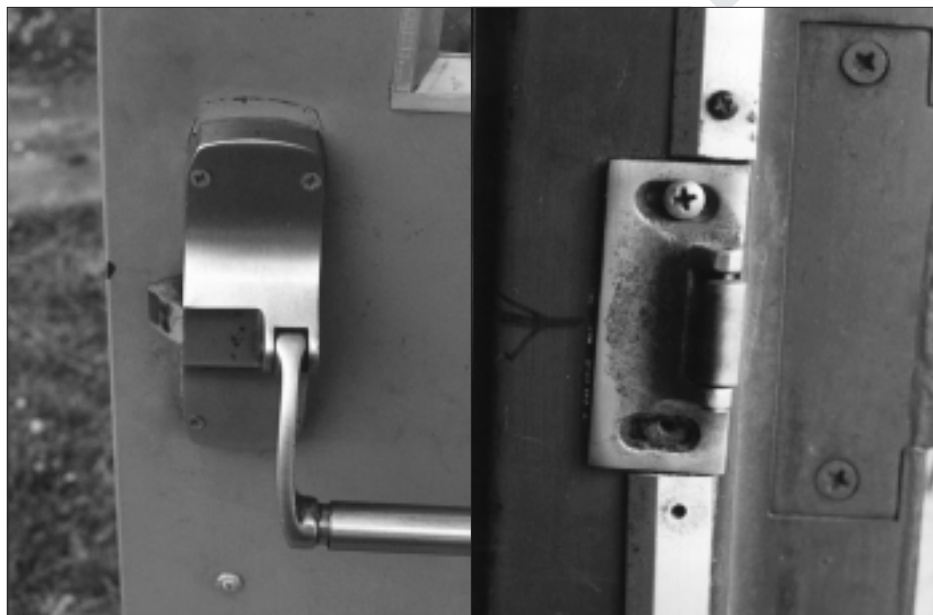


by Jake Jakubowski

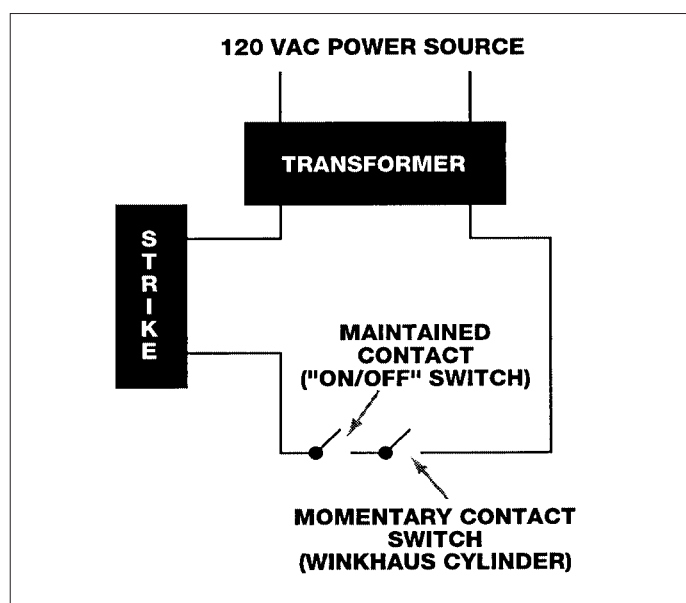
Afore y'all get to thinking this ol' boy's been a visiting Uncle Bill's still or playing some kine a' backwoods baseball with difrint rules: Let me set y'all straight!

Back in January, I interviewed Ken Schwartz at his shop in Florida, about selling and installing electronic strikes. (See page 42 of the January 1995 *The National Locksmith*.) Back then, Ken tol' how y'all could make good money doing what he called, "Electronic Locksmithing." At the time, I thought I'd do an article on electronic strikes the next time I had an installation that was difrint enough to tell y'all about - and that would bear out what Ken had to say.

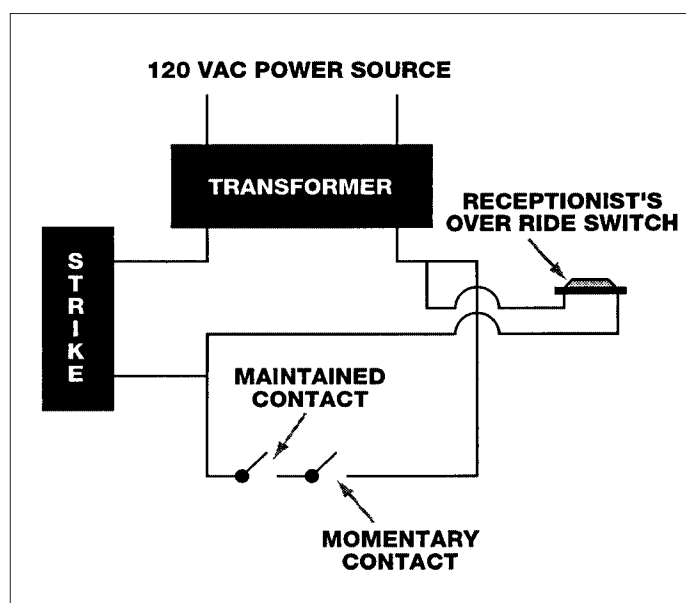
Shur 'nough! A customer called me with a fairly common problem that needed an unusual solution. Seems



1. The Corbin 66 device and accompanying strike.



2. Place the correct switches in series with the strike, created the effect the customer desired.



3. The wooden door application included an additional switch for the receptionist.

Continued from page 96



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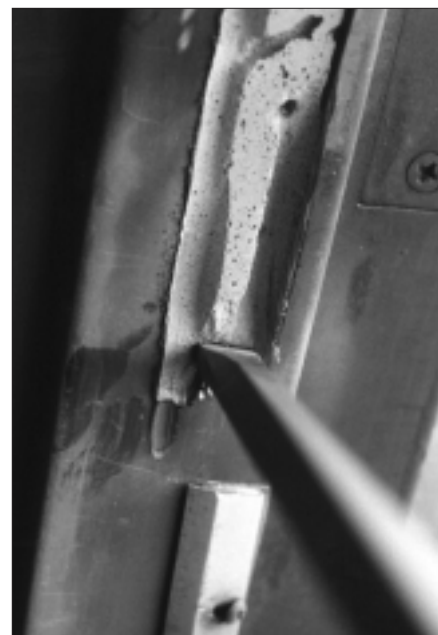
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4. There's more to this door than jamb and mortar. Notice the thick steel plate found directly below the jamb.

that management wanted to give each employee a key so they could enter their respective work areas during normal business hours, but not be able to access the premises during "off" hours. (They had already taken bids for PC-based access systems and rejected the electronic access control as too expensive.)

Two of the doors were equipped with the old-style Corbin 66 series rim-type exit devices with a standard roller-type strike. (See photograph 1.) Access from the outside was by way of an old-style pitcher-handle with a thumb piece trim in a class room function. That is, the thumb piece was locked or unlocked by the key from the outside, with the bar allowing egress from the inside at all times.



5. With the steel cut away, it's time to remove the mortar.

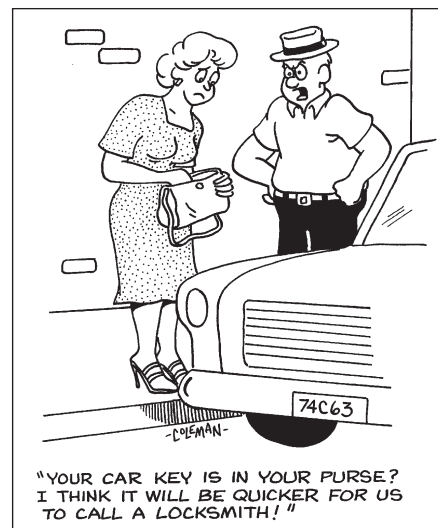
The third door was a wooden door giving access to the office area from the vestibule of the building. This door was equipped with a Kwikset passage function knob-set!

Management did not want to change the bitting of any of the locks that were currently on the doors in question since engineers and other staff needed continued and unrestricted access to all areas of the facility at all times! In addition, they wanted the ability to activate and deactivate the employees' accessibility anytime they chose. All without requiring management to carry another key.

The final fly in their "I Want" ointment was the request that the employees keys be keys "they can't get duplicated at the hardware store!"

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See
pages
80-81
for details.





6. The mounting hole for the switch box is sketched, drilled and cut, making a perfect hole for placement.

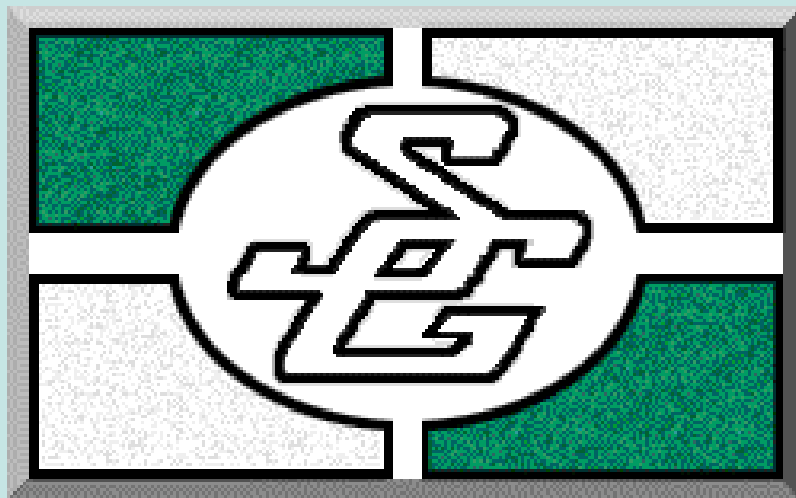
And, of course, the customer (because of cost considerations, didn't want to use digital access, card access or any fancy electronic stuff.

I didn't have to ponder more 'n a minute to know they would need 'lectric strikes on them three doors. Regardless of how they wanted to

activate 'em. As far as letting management keep the same key and be able to access the building by key or activate and deactivate the employees access with the same key - that didn't require rocket scientist thinking neither. Just install a key operated, maintained contact switch for each door - using a Corbin mortise

cylinder to operate the "on/off" switch.

Giving the employees keys that they couldn't get duplicated didn't create no problems neither. I decided to use Winkhaus cylinders and keys. That accomplished two things. First, Winkhaus keys are not duplicable

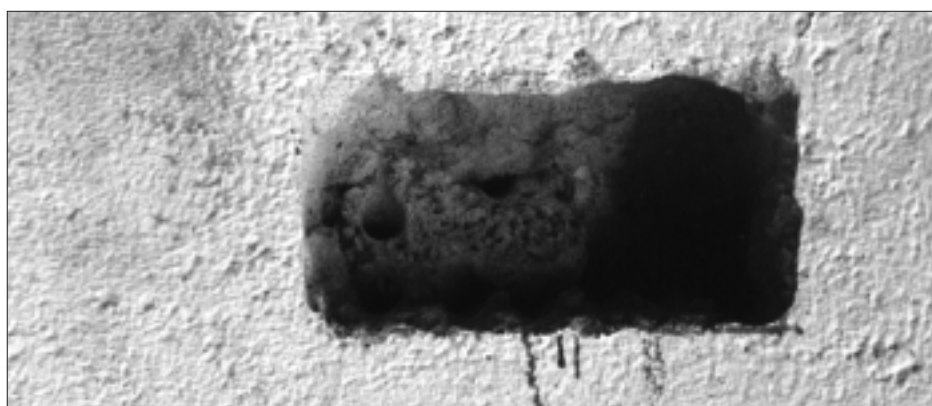


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unless the same keyway can be found in the same geographical area. And, two; by using Winkhaus (or Schlage Primus, or ASSA or Medeco) the employees could not get the keys to enter the Corbin cylinders, which would preclude them from trying to operate the wrong cylinder!

As you can see, the solution is fairly simple. Equip each door with an appropriate strike. Add a key-operated "on/off" switch keyed to management's key and install a momentary contact switch operated by a restricted keyway cylinder for employee use. Nothing to it! In the



7. The second door proved more of a challenge with the cell of the cinder block being filled with mortar.

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case of the wooden door off the vestibule, I had to install a Corbin CL3457 leverset with a storeroom function and a different type of strike.

The first thing y'all need to be aware of when yer thinking to install a 'lectric strike on a rim-type panic device equipped door is: y'all need to know how "deep" the strike plate is. That is, how far out from the door stop does the strike extend? The most common measurements are 13/16", 3/4" and 9/16". That measurement determines the series strike that you need regardless of the brand you choose to use.

In this case, I chose to use a Folger-Adams 310-4 which has a case and working parts of cast stainless-steel, is designed to stand up under heavy and continuous use - and, the dadgummed thing looks good too!

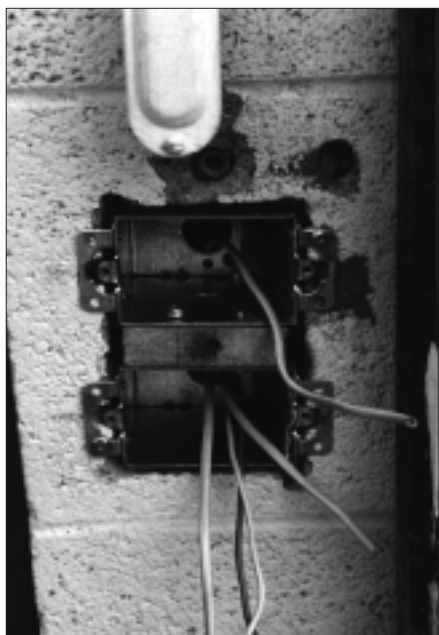
For my switches, I used three Camden CM-1120 SPST momentary switches for the employees keys and three Camden CM-1130 SPDT maintained contact switches for management's "on/off" switch.

Power would be supplied by three Trine #125 transformers.

Illustration two shows you the wiring diagram used for the rim-type exit device strikes. Illustration three shows you the wiring for the wooden door in the vestibule. I also added a separate "buzzer" to this lock so the receptionist could admit visitors or employees that did not carry keys.

Now, let's get on with the actual installation:

Photograph four shows the rough first cut-out I made for the Folger Adams 310-4. If y'all look real close, y' can see that not only is the jamb concrete-filled, but they's a second piece of steel reinforcement under the



8. The custom made double-gang junction box ready to hold the switches.

skin of the jamb! That was my first surprise with this installation!

Photograph five shows all the steel has finally been cut away, and it's now time to start digging out the concrete with a chisel and hammer. Y'all can make this part go a little easier by drilling a passel of holes in the concrete and then using the chisel to clean-up the cavity. When complete, spray or coat the inside of the new hole with spray paint or lacquer. This will hold back the mortar dust and prevent it from fallin' in and foul'n' up the strike.

Since the switches need to be mounted on the outside wall next to the door, it's necessary to cut out a hole to mount the electrical boxes.



9. The mounted strike.

First thing I did was to mark off the dimensions of the double gang box, drill holes around the perimeter and use my 4" cutoff grinder with an abrasive concrete cutting wheel to get a neat hole. (See photograph 6.)

Photograph seven shows the second surprise I got on this installation. Not only were the jambs concrete-filled and double reinforced, but the wall next to the second door, although of standard concrete block construction - each "cell" in the blocks had been filled with concrete. In essence, I had to cut out my hole for the junction boxes in solid concrete!

Which jes' goes to prove one thing: When yer thinking about bidding on this type of work - y'all need to be prepared to expect the unexpected. It don't hurt none to add "Murphy Money" to your bid. That's jes' a little extra to he'p y'all compensate for the unexpected.

Photograph eight shows my customized double-gang junction box. The piece of wood that y'all see between the two boxes separates them enough to allow the face plates of the switches to butt flush

Photograph nine shows the Folger



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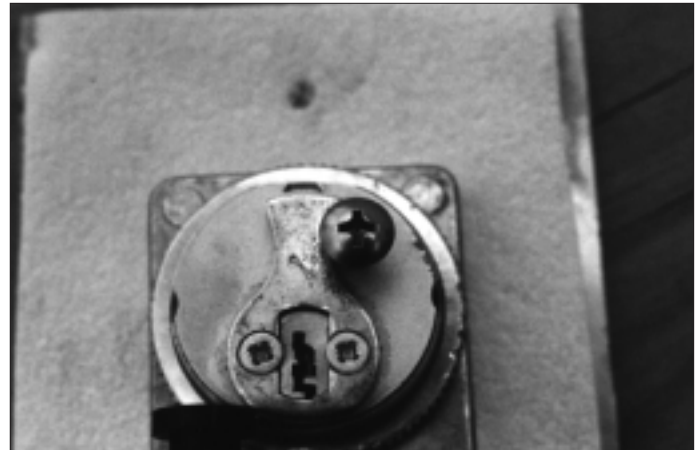
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10. One switch wired and ready to go.



11. A screw was used to direct cam rotation to hit the switch.

Adams strike mounted on the door jamb. These strikes are Fail-Secure strikes. That means they are locked until energized. That is, the switch has to be thrown and current channeled to the strike in order for the strike to release. This insures that even in the event of a power failure, the door will remain locked from the outside.

Photograph 10, shows one switch (In this case, the employees switch) wired and ready to be screwed to the junction box with pin-Torx screws. Notice the gasket material on the back

of the switch's face plate. That material will help to weather-proof the switches.

Photograph 11 shows a 6-32 screw in the back of the cylinder. This screw acts as a stop to prevent the employees or management from trying to activate the system by turning the key the wrong way. I put these stops on all of the cylinders that I installed and set the actual switches to the right.

Photograph 12 shows one of the transformers being hardwired into the

power source above the door. By using a hardwired transformer rather than a plug-in type, I'm assured that no one will inadvertently unplug the system.

A Rutherford Controls 4114 series strike was installed in the jamb of the wooden door in the vestibule area.

Photograph 13 is of the completed installation on the wooden door. Notice the Corbin lever set (storeroom function) and the MAG Instal-A-Lock plate. Beside the door are the two switches necessary to use



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12. The Trine 125 transformer was hardwired to prevent accidental unplugging.



13. The completed vestibule door.

the system. With the exception of the lever set and MAG Instal-A-Lock, all three doors had this same configuration.

The cylinder on the left is a Corbin 60 mortise cylinder which permits management to use the same key that will unlock the lever set and arm or disarm the access system.

The cylinder on the right is a Winkhaus cylinder that operates a momentary contact and energizes the Rutherford strike to unlock the door.

Now, that's the "Three Strikes" part of this here article. What's the "Home Run" part? That's the part where I run home and say to Christie, "Looke here!" and watch her eyes light up when she sees how many shekels I brung home.....

How many shekels is that? I ain't telling.

But! I will tell you this: The materials and supplies I needed to do this job, and the cost of the labor (Yeah, I hired me a helper for this

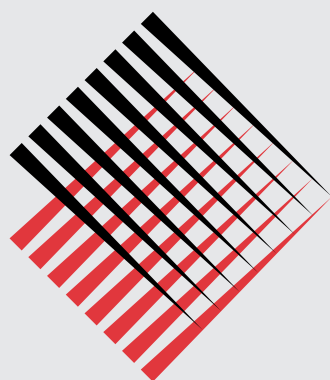
one) to do the job, and figurin' in all the little incidentals that were necessary, this job cost me - out of pocket - jes' a tad more'n \$1,200 and took me two days to complete.

Now you take that cost figure, add in your normal markup, service calls and "Murphy Money" and see what you coulda' made in a two-day, three strike, home run, job like this!

As ol' Jerry Clower would say: "Whooooeeeee!"

I'll see y'all next month; y'all heah?

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Reed Report



Bill Reed

Scattershooting while wondering whatever happened to . . . Bill Reed

- You remember Bill Reed...don't you? He's the one that had the magazine called Security Reporter. Well, the magazine is no longer, but Bill Reed lives on through the pages of *The National Locksmith* magazine.
- Seems AAA (the auto club) is suing locksmiths that use the same name. All I can say to that is they're going to have a long, hard job ahead. There's lots of AAA locksmiths. Upon further investigation it seems they really do have the copyrights for their name, so they are probably going to win. My advice would be not to use AAA for a new venture in the future, and if you are already named AAA just sit tight until you're sued, then change your name to Triple A, AAAA, AA or whatever. Don't worry too much about it. It could take 200 or 300 years to get around to your company.
- On the eve of my birthday, October 7, I will be the Keynote Speaker at the annual MINK convention in Omaha. You should plan to attend this show; great bunch of people. I promise something new and different for my speech, too. I think you'll find it interesting. For more information, call Keith Delano (308) 345-6174.
- TRUST Seminars will also be handling the entire educational program this year for the POLA convention. This will be October 14th and the exhibits will be on the 15th. If you've never attended this show, you've really missed out. This year it will be in Girard, Ohio at the Holiday Inn Metroplex (Youngstown area) 1620 Motor Inn Drive. See you all there.
- While we're speaking of seminars, I want to again apologize to the group at Moses Lake, WA. I've missed our seminar two years in a row. Maybe I can do one next year.
- Scott Anderson is becoming a talk show Guru. He has his own, very successful talk show in Phoenix and it will soon be transmitted across the U.S. Good Luck, Scott!! Tell Howard Stern hello for me.
- Hats off to SERLAC for cancelling the 1995 show because ALOA was in Orlando. It's nice to see an association make a decision like this to help the industry.
- I want to thank Marc Goldberg for satisfying my subscription obligation to all the REPORTER readers. I'm looking forward to working with Marc in the future. I am still dedicated to helping the industry in any way possible, and I'm sure Marc is too. If I didn't feel that way, I wouldn't be here.
- For those of you that might be interested in the four volume set of Hank Spicer's auto lock servicing books (soon to be five) or the Billy Edwards masterkeying book or the Gerry Finch books (I.C. Core and master keying) drop me a note at the following address and I'll send you a price list:

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tips and win.

HOW TO ENTER

Simply send in your tip about how to do any aspect of locksmithing. Certainly, you have a favorite way of doing things that you'd like to share with other locksmiths. Write your tip down and send it to: *Jake Jakubowski, Technitips Editor, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107* or send your tips via E-mail to the E-mail address posted in the upper right hand corner of this page. Remember, tips submitted to other industry publications will not be eligible. So get busy and send in your tips today. You may win cash or merchandise. At the end of the year, we choose winners for many major prizes. Wouldn't you like to be a prizewinner in 1995? Enter today! It's easier than you think.

BEST TIP OF THE MONTH

If your tip is chosen as the best tip of the month, not only do you win the All-Lock Foreign Auto Service Kits, but you also automatically qualify to win one of the many excellent year end prizes!

EVERY TIP PUBLISHED WINS

Yes, every tip published wins a prize. If your tip is printed, you'll win \$25 in Locksmith Bucks. You can use these bucks to purchase any books or merchandise from *The National Locksmith*. Plus, every tip published will win a folding pliers. (Please remember to include your complete mailing address - we cannot mail prizes to P.O. Boxes.)



by
Jake Jakubowski

America Online: NATL LOCK

Use the above address if you are on AOL.

Internet: natllock@aol.com

Use the Internet address if you are not on AOL.

These Prizes Awarded Each Month!

- All-Lock Foreign Auto Service Kits - Worth Over \$225!
- Strattec Pinning Kit and Jacket
- American Lock & Supply \$50 Merchandise Certificate
- HPC Pistolpick
- Silca Rubberhead Keyblanks (100 Blanks)
- Pro-Lok PK15 Professional Lock Pick Set
- Sieveking Products EZ-Pull GM Wheel Puller
- A-1 Security Mfg. Quickpull
- Major Mfg. CAK Cylinder Access Kit

Submit your tip and win!

In the January, 1996 issue of *The National Locksmith*, I'm goin' to announce the winners of the 1995 year-end Technitip prizes. That means: If you want a chance to get your name on the winners list for 1995, ya' better git to writing an' git me your tip — like, raht now!

I'm going to be giving away a Silca Matrix, DeWalt drill, HPC machines, Curtis Machines, Strattec merchandise, Major Manufacturing products, code books and other great stuff to a bunch of tipsters to help them start their year out really raht!

I hope you're one of them.

Jes' remember the only way you can become a year-end winner is to submit a tip that I can use in one of the monthly columns. If I use your tip, you'll get - at the very least - a Folding Pliers and some locksmith bucks! Or, you kin win All Lock's Foreign Car Service Kit worth over \$200, or a Strattec pinning kit and jacket, or an HPC pistol pick, or 100

Silca rubber headed key blanks, or a \$50 merchandise certificate from American Lock and Supply, or a Sieveking wheel puller, an A-1 Quick Pull tool, or a Major Manufacturing Product.

All of these prizes are furnished by the respective manufacturers to help us give you more than a great magazine plumb full of solid and useful information that you, as a locksmith, can use every day. All you have to do is send me your ideas.

Send me a useable tip an' if I print it, you'll automatically qualify for our year-end drawing. But! Only you can make it happen! So, git your pencils out (or, crank up y'all's computers and E Mail it) and jot down them ideas, tips and tricks. After all, whatcha got to lose? Do it now - y'all heah?

One more thing: When y'all send in a tip, include y'all's name and shipping address (no P. O. Boxes). Otherwise, I can't send y'all your prizes if your a winner.

All-Lock Foreign Auto Service Winner Easy Emergency Dial

I was asked to open a burglarized safe at a ready-mixed concrete plant. The would-be crooks had attacked the safe without getting it open. During their attempt to get at the \$100 petty

cash fund, they knocked off the handle, the dial, the dial ring and beat on the hinges. The dial spindle was broken almost flush with the face of the safes door.

I thought that with a little luck, I could attach my emergency dial to the

with no exposed access to the keyway. Here's how I correct this problem.

After removing the ignition housing from the column, I drill a 1/16" hole through the back of the lock, and in line with the center of the keyway, just to what I perceive to be the "break through" point. Then using a straight, stiff wire, I push it all the way through the hole to the keyway and push the broken piece of key out of the plug.

To help in removing the broken tip of the key, I use the other part of the key and insert it in as far as it will go to raise the wafers out of the way which eases the travel of the broken piece. Then the key can be duplicated or the lock serviced as needed.

J. Drew Van Deventer, CPL
Colorado

Editor's Note: In his tip, Drew does not indicate whether he removed the cylinder from the saddle or housing that holds it to the column before drilling the hole in the rear of the cylinder. Many of the newer import ignitions like the Mitsubishi (X160 keyway), Mazda (X222) or Nissan Maxima (X123) have all sorts of electrical connections that come out of the back of the housing that would preclude drilling in the manner discussed. If, on the other hand, you had the entire lock cylinder removed from the saddle it would be possible to drill a small hole through the back of many of these ignitions to get to the broken key. In any event, since working on a steering column is serious work and involves the safety of your customer, I would proceed with extreme caution and avoid any "rigging",

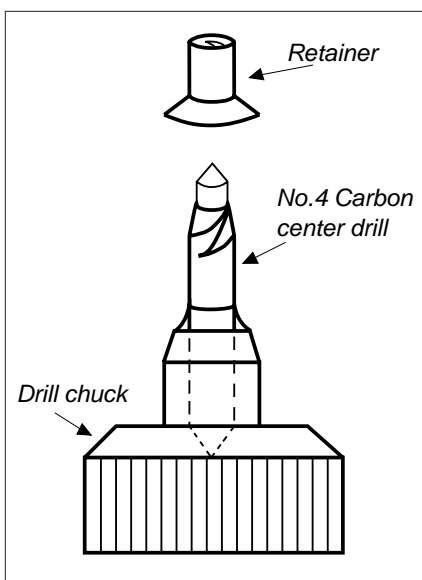


Illustration 3

unorthodox repairs or temporary fixes.

HPC Pistol Pick Winner

Padlock Cylinder Removal

I service a fair number of padlocks each year and have constantly searched for an easier way to open locks like the American 700 series or the Master rekeyables.

Not long ago I was talking to a friend of mine, who happens to be a machinist, and was telling him that if I could just find an easier way to remove the hardened retainer on the bottom of these locks, I thought I

could originate lost keys more quickly and without doing any major damage to the padlock itself. (See illustration 3.)

After looking at one of the padlocks, he suggested that I try drilling the retainer out with a #4 Carbide Center Bit. These bits have a 1/8" pilot bit and a 60° rake that just about equals the dimensions of the retainers.

Drill out the bottom diameter (about 5/16") of the retainer, pry off the hardened retainer plate, drop the cylinder and use a screw driver to open the lock.

After shim picking the cylinder you



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can originate a key to match the cylinders biting. Or, you can recombine the cylinder.

Carbide Center Bits are available from machine tool supply houses or, perhaps, you can get one from your local machine shop.

Thomas P. Pirkle
Georgia

*Silca Rubber Headed Key Blanks
Winner*

Avalon Opening

At 3:30 p.m. the manager of a gift shop on the air base near where I live called me to open a 1995 Toyota Avalon. I reluctantly agreed to take a lockout call that I felt certain I would not be able to complete.

I was told on the telephone that the lady had been locked out since 11 a.m. - that the base security police and another locksmith had repeatedly tried to open the car without success. I told the woman that I would be willing to come out and try to open her car, but that I would make no guarantees.

When I looked the car over, I thought that an under-the-window tool would be the trick tool to work with. I inserted the tool, flipped the rocker button back and it sprang right back to the locked position! Then, I remembered reading about the Lexus GS300 where you had to manipulate the rocker button and pull up on the latch handle at the same time.

I tried that and the door opened very easily. Of course, after making the first attempt, the alarm was going off in my ear which was a distraction. But, the customer was happy and I was pleased with the opening and the fee I received.

Rodger Long
Illinois

Editor's Note: While I haven't tried the Avalon lock as of yet, Rodger, the system you're describing is the Smart Lock system that Lexus uses on all of its vehicles. Although not super difficult, pulling up on the handle at the correct time can sometimes be difficult. Timing is everything.

*Pro-Lok PK15 Professional Lock Pick
Set Winner*

Honda Trunk Opening

A customer had locked his keys in the trunk of his 1993 Honda Accord and called me to retrieve them for

him.

This vehicle has a lever for the trunk and the gas filler door besides the drivers seat but the levers were locked.

I noticed that the plastic cover that protects the lever mechanism seemed to have a center panel (about 1/4" wide and 2" long) that could be pried or lifted out after removing a single Phillips-head screw. Sure enough, when I gently probed this area with a screwdriver, the service panel popped up and exposed the cables attached to the levers.

Now, you can manipulate the lever (which is spring loaded) to open the trunk. I think this is easier then trying to pick the trunk or impression a key.

Orland Hancock
Nevada

*Sieveling Products EZ-Pull GM Wheel
Puller Winner*

Contour, Mystique Opening

I have read about a number of ways to open the new Ford Contour and Mercury Mystique. I think I have found the easiest way to get into these cars.

I pick the trunk lock, which is a wafer lock without a side-bar. Once the trunk is open, I find it very easy to pull the release to let down the back seat and reach through to unlock one of the doors.

Royce Evans
Ohio

Editor's Note: Royce, thanks for showing us another way to gain entry into Ford's latest models. Personally, I prefer an Under-The-Window tool. But maybe that's because I'm too big to fit in that tiny trunk.

*A-1 Security Mfg. Quickpull
Saab/Honda Key Generation*

Here are two tips that I think might make things easier for other locksmiths:

A quick way to generate keys for Saab 900's and Honda Civics that have trunks (as opposed to hatches) is to read the code that is stamped on the top of the lock cylinder and impossible to see without removing the lock.

However, I have a Steelman Industries illuminated mirror with a 12" shaft that, with a little contortion lets me quickly read the code and be on my way.

When you have to replace an old deadbolt that has been with one-way screws that have been tightened to the max. don't get out your Un-Do-It tools. Use a 3/16" drill bit in your portable drill and drill right next to the screw. The drill will loosen them right up for easy removal.

Pete Gamble
N. Carolina

Major Mfg. Product Winner

Dial Protector

My customer had a wall safe in their furniture showroom that they would leave on day-lock. The problem was that customers, or more accurately their children could not resist giving the dial a spin as they passed by.

Since the safe couldn't be moved and management wanted to leave the safe unlocked during the day for easy access to those employees that needed it, they asked me to come up with a way to keep the dial from being spun by passers-by or shoppers.

My solution was to install a clear thermostat cover over the dial and dial ring. I simply cut a four-inch hole in the back of the thermostat cover, which was plastic and mounted it to the safe by drilling and tapping 6-32 holes for the mounting screws.

This worked well, and the customer was happy.

Ray Conner
Virginia

Folding Pliers Winner

Detex Battery Holder

When installing Detex units that have the battery on the bottom (You know, the big heavy batteries that always fall out when you remove the cover), just put a large, heavy-duty rubber band around the battery and the plastic tray. This keeps the battery from falling out and tearing the wiring loose or dropping on your foot. If your customer changes their own batteries, they'll appreciate this modification too!

George Henderson
E Mail

I just opened my first Saturn.

Three separate opening books called for a horizontal opening - forward. I couldn't make it work. When I put my light in the door, I was amazed at all the junk in there.

BITS & PIECES

Informative Tidbits for the Security Industry

These additional Kawasaki KZ codes were submitted by Jim Grieshaber, CML of Adams Key Shop in Columbia, Missouri. Thanks Jim.



by
Tom Seroogy

| | |
|-------------|-------------|
| 5173 333434 | 5539 143323 |
| 5201 331312 | 5569 124431 |
| 5233 211314 | 5586 133313 |
| 5270 134234 | 5625 242242 |
| 5274 112224 | " 111331 |
| 5303 233223 | 5648 313434 |
| 5304 134232 | 5661 144144 |
| 5311 323424 | 5663 323213 |
| 5329 322241 | 5669 144214 |
| 5352 324112 | 5744 224411 |
| 5412 221133 | 5879 314314 |
| " 141332 | 5888 332121 |
| 5492 322243 | 5889 112134 |
| 5516 213433 | |

For anyone that missed out on the ALOA convention in Orlando, Florida, this year, here's some of the new and amazing things to be had in our wild world of high tech security.

Lockmasters had an array of new and different gadgets. Most notable was their version of virtual reality technology through Virtual io™ i-goggles™. Donning a set of goggles, locksmiths were given a taste of virtual safe servicing. Using an attached borescope, the technician has a view of not only the inside of the lock, he also sees the safe dial as he is aligning the gates. Such a view eliminates the need to view the lock

and then view the dial while trying to find the combo.

When not used for safe opening, the headset doubles as a mini-theater or entertainment center. Simply plug the unit into a VCR and play your favorite movie. The view is comparable to watching an 80" screen from approximately 6' away. Sound is also provided through the headset, meaning you can watch and enjoy without disrupting those around. The head set costs \$699 through Lockmasters at (606) 885-6041.

Anyone touring the further reaches of the ALOA floor soon found Olympus. Yes, they are one in the same as Olympus camera. However, displayed at the show were some of the most intriguing borescope samples that I've seen.

Grabbing most of my attention was a 2.2mm flexible borescope. While not feasible for the often rugged work of the safe technician, this tiny scope provided more than ample vision with minimal light. Adding to its versatility, a small lever near the eyepiece lets the technician move the last 3/4" of the lense in various directions. Not present at the show, was a similar scope with a .6mm diameter. Heck, pretty soon we won't even need to drill holes to scope a safe lock.

And, from the "That's just what I need" aisle, HPC has a couple of handy items. Continuing the trend in offering new techniques in car opening, HPC showcased the CO75 Horizontal Clutch™ and the CO76 Vertical Clutch™ car opening tools. To date, most tools designed for grabbing vertical and horizontal linkage demand that the tool hook and bind the linkage rod.

The Clutch tools, however, have a fingerlike hook that the technician can use to physically grasp rods without the need for binding. Aside from opening vehicles, in many instances, the tool can also be used to grasp and

reconnect disconnected linkage without disassembling the door panel.

Also released by HPC are two types of wallet pick sets. The BFW-8 Bi-Fold Wallet pick set is a bi-fold wallet complete with full size HPC picks. The smaller TFW-5 Tri-Fold Wallet pick set includes a set of shorter picks with rubber handles.

These and other HPC tools are available through authorized HPC distributors. Or, call HPC at (708) 671-6280.

While many other products could be listed here, let me leave with a few tid bits from the major three All-Lock, Auto Security Products, and STRATTEC.

All-Lock has available its 1995 application catalog. Included are the new All-Lock VATS keys. With that, All-Lock can now supply all the necessary tools and keys for working with all VATS equipped vehicles. We've been told that new ignitions for many late model foreign vehicles are just around the corner.

From the Auto Security Products corner, we've been told that ASP is now working in conjunction with Hurd lock to help supply the locksmith with OEM Ford ignitions and locks. Included are ignition lock cylinders for the late model Escorts as well as the new Ford Contour and Mercury Mystique. For more information on all their new products, contact an ASP distributor and ask for the new ASP catalog #15A.

Finally, from Strattec, we have two brand new ignition systems: the GM MRD and the Ford PATS. The GM MRD, or magnetic rotation device, is a new ignition lock integrated security system to be started in some of the 1996 models. See page 11 of the June 1995, The National Locksmith, "GM's VTC Passlock," by Tom Mazzone, for more information on this system.

The Ford PATS, or passive anti-theft system, is another type

I GUARANTEE IT-SAFES

Everyone wants to have a guarantee concerning a product or service. What can a locksmith guarantee his costumers?



Don't make up safe lock warranties you can't keep!

There is a television commercial for a men's clothing store that closes with the phrase "I guarantee it!" Everyone wants to have a guarantee when involved in a business transaction concerning a product or service. It shows a belief in the product by the promoter and a recourse for you if there is a future problem.

A guarantee and a warranty can pertain to the same item but in different degrees. A guarantee is a pledge or assurance that a product is as represented and will be replaced if it does not meet specification. For example, a guarantee of a safe lock may imply that it meets all testing and requirements of the Underwriters Laboratories specifications.

A warranty can include an implied guarantee. In the case of a product such as a safe lock, it usually describes the expected length of service by the item. A product may have a warranty to operate effectively for six months, twelve months, five years etc. During this time, the product is said to be under warranty. If a product fails during this time period, you can return it for a reimbursement, replacement or only be charged for the amount of time used.

Most of our trade products are only covered for a twelve month period. An exception is the two-year warranty on the 6730 series combination locks by Sargent & Greenleaf. The warranty clause states: "Seller (S&G) warrants that for two years from the date of shipment from the Sellers point of manufacture, the goods shall be free from defects in material and workmanship, provided the goods are normally and properly used according to the Seller's written instructions."

This means, if you correctly installed a new lock per S&G instructions, and it fails within two years from the date it left the factory, the lock will be repaired or replaced. The warranty only covers poor workmanship or defective parts. Signs of abuse or damage won't get you a new lock.

If a safe must be drilled to be opened, S&G isn't obligated to pay your opening charge. Although, each situation is viewed by S&G and attempts are made to find an equitable and impartial agreement for both parties. Remember, the basic warranty covers only the products manufactured by Sargent & Greenleaf.

Another interesting portion of the S&G warranty reads: "Unauthorized use of dial rings and/or spindles not manufactured by the seller in conjunction with its combination lock products invalidates the warranty."

If you install an S&G lock and then decide to use a LaGard, Ilco or any brand of dials ring or spindle other than an S&G, you violated the lock warranty. You have just accepted all responsibility in the event of a malfunction or failure of the lock. This combination of odd brand parts are not covered under the S&G warranty.

Those of us in the locksmith and safe industry are often servicing or repairing items that are out of warranty. As we service an item, the customer assumes that we are also accepting the role of a warrantor. They believe any future problems with the item now rests upon our shoulders to be corrected. When an item fails, many customers reflect this attitude; "you worked on it last, it must be your fault, you fix it - now!"

Our customers, unless shown or told, believe their products should continue to operate flawlessly - that servicing, adjusting or repair will magically rejuvenate the product to a new status. If it fails shortly after being serviced, the customer believes the technician must not be doing his job correctly.

No one wants a telephone call that begins with, "You were here yesterday and changed my safe combination - this morning, it wont open." The effect of this call can be devastating or it can mean a good paying job. It must be predetermined by you.

What if you find problems within the lock while servicing? Show or explain the situation to your customer. State the possibilities of a future problem or a lock out. Make a recommendation to solve the problem and have a price structure ready for the questions of cost. Always inform the customer of any unusual situations concerning the operation of the lock. Make sure they understand all of the ramifications and have them make the deciding action to solve or ignore the problem.

I am not in favor of much repair within the combination lok. All of the parts operate in conjunction with one



another. If one part is worn, all parts will have wear. There are exceptions, but replacing the entire lock is cheap insurance on the behalf of the customer who needs a reliable operating safe.

Occasionally, the customer cannot afford the additional expense or is not authorized to have the corrected work performed. A note of your finding and the decision by the customer must be stated on your signed invoice. If in fact, the lock fails at a later date, you now have a document signed by the customer declining your recommendations. In other words, you're off the responsibility hook!

A procedure should be run to test the combination lock after changing the numbers. First, test by running the numbers to the opening index. Then test the combination by running each number one-half number over and one-half number under. The lock should open on all three attempts. Always lock the safe door open after your testing.

Have your customers run the combination to open the lock and release the locking bolts. Close and lock the door. Ask the customer to run the numbers again and open the door. This series of five successful openings, three by you and two by the customer, should verify the lock is operating correctly.

Should you offer a warranty? Yes, with conditions. Only the manufacturer can give a warranty on a product such as a combination lock. If you don't have an engineering degree and aren't a metallurgist, or you're not qualified to write a thesis on the design, construction and operations of the combination lock, maybe granting a warranty is not within your realm.

What kind of warranty can you give your customer? A warranty on your labor! If you only change a safe lock combination, there should not be any warranty given. The lock passed your testing. To the best of indications, it is operating correctly – there is nothing else you can warranty.

After servicing a safe, should you give a warranty on the safe lock for a year, six months, three months? NO! This is not your responsibility. No more than a mechanic who changes the oil in your car would give a warranty on the engine to run another ten thousand miles. No matter how careful or precise you inspected and service a safe lock, you cannot warranty the operation of the lock. When you change a safe lock combination, there is no magic ball you can peer into and warranty the lock will hold its combination.

If you completely disassemble and service a safe lock, you now can offer a labor time warranty. Which means, if the customer has a lock problem within a specified time, there will be no charge to the customer to bring you back to the safe site. In other words, there will be no trip charge.

If you have correctly stated your warranty on your invoice, the free trip is a courtesy to the customer, but there is a charge for any additional work performed. Since a lock problem arose during your time warranty, the customer will most likely call you back to exercise the warranty. Always

take a copy of the previous invoice with its warranty notes to verify and refresh memories. It is now an easy sell to replace the problem lock. You make a profit from your warranty and the customer's lock problem is resolved.

Always specify in writing, the amount of your labor warranty time. For example, in a fast food business where the safe is opened ten to twenty times a day, the time period should only be for thirty to sixty days. For a home owner, offer a minimum of six months.

Finally, leave the customer a professional looking invoice. This is their last image of you or your service. A tear out page from an over the counter invoice book with your name rubber stamped across the top, doesn't speak too highly of the quality of your business.

Spend a couple of dollars and have a printer layout your invoice style. You can then spell out your terms of payment or delinquent charges. Provide a signature space for the authorization To Order Work, and most important, an area for expressing your warranty policy.

Everyone will be happy to shift responsibility onto you if you allow it to happen. Without a written statement from you regarding your service warranty policy you are saying, "I guarantee it!"

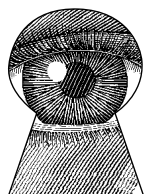
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THRU THE KEYHOLE



A Peek at Movers & Shakers in the Industry

ATTENTION MANUFACTURERS AND DISTRIBUTORS: Would you like your company and products to be profiled in *Thru The Keyhole*? Please call Managing Editor, Tom Seroogy at (708) 837-2044.

Medeco's All-N-One™ Cam Lock Kit

How secure is the inside of your customer's business or home? They may already have superior protection from outside intruders with the high-security protection you installed on their door, but that's not enough. If someone else can easily duplicate a key that fits one or more of their cam locks, there may be trouble. There are more than a million reported burglaries from businesses each year. The average loss for business burglaries is \$1,400.

Medeco's new All-N-One™ cam lock provides a natural high-security add-on for Medeco customers and others who want a higher level of security and privacy within offices, laboratories, file rooms, and other security-sensitive areas of the business and home. And, thanks to new kit packaging, all of the parts needed for installation and functioning are included in a polybag which simplifies inventory control.

The All-N-One cam lock provides excellent protection for cash boxes, data storage files, currency changers, lockers, credenzas, key storage cabinets, alarm control cabinets, gun racks, desks, storage cabinets, narcotics cabinets and dozens of other applications.

The All-N-One kit includes a UL Listed cabinet locking cylinder plug with two position keypull shell, two 1-1/4" straight cams, two 1-1/8" offset cams, two stop washers (90° and 180°), a spur washer for wood doors, all the nuts and washers to complete the job, plus two keys. The All-N-One

kit is available keyed alike, keyed different or sub-assembled in all Medeco serviced 4-Level keyways.

The kit is ordered by size 5/8", 7/8", 1-1/8" and 1-1/2". The component parts to match the application are in the bag.

Medeco has also simplified the ordering process with an easy, seven digit base cam lock part number, plus the suffix "-KIT". For example:

- 5/8" Part #60-1150-KIT
- 7/8" Part #60-0350-KIT
- 1-1/8" Part #60-0650-KIT
- 1-1/2" Part #60-1450-KIT

Medeco cam locks use a 4-Level, 5-Pin key blank and a 60/90 Series pin kit. This key blank and pin kit are different from the 6-Level, 6-Pin key blanks and pin kits used on Medeco's popular 10, 20 and 32 Series door hardware cylinders. For a technical pinning diagram, call Medeco Technical Support at 380-5000.

The next time your customers want to increase security in their office or home, recommend the Medeco All-N-One cam lock kit. Call your authorized Medeco distributor or sales representative for more details.

For further information contact: Todd Foutz, Marketing Communications Manager, Medeco Security Locks, P. O. Box 3075, Salem, Virginia 24153. Phone 703-380-1781

Kwikset Celebrates 50 Years

Kwikset Corporation is celebrating 50 years of lockset manufacturing. For 39 of its 50 years of business, Kwikset Corporation has been a dominant player in the residential door hardware market. Kwikset has a long track record of making a significant impact on the industry and has earned a sustained reputation for marketing

products that offer its customers quality at a good value.

Kwikset Corporation is a Black & Decker company and markets products under the Kwikset and Titan brands. Its full line of residential door hardware includes: handlesets, knobsets, deadbolt locks, and leversets. Kwikset continues to produce all of its products in the U.S., while successfully competing with companies that have moved their



1. In 1948, Kwikset moved to Anaheim, California, and soon become the number one manufacturer of residential locksets,

production out of the country and with off shore companies exporting inexpensive foreign-made products.

Kwikset's originators, a pair of entrepreneurs named Adolf Schoepe and Karl Rhinehart, revolutionized residential lock concepts when they invented the tubular design that replaced the old-fashioned mortise lock.

They bought a small lock manufacturing company in Southgate, California and named it Gateway Manufacturing. With the tubular design consisting of only a lock, a spindle and a latch, Schoepe and Rhinehart knew that their product was easier and faster to install than the traditional mortise lock, but found it

very difficult to become established in the retail hardware market. They met resistance from the long-established competitors who were promoting the familiar and accepted mortise and cylinder locks.

Instead of trying to fight a losing battle, they recognized that housing developments were fast becoming the trademark of American living. Instead of putting up only five to six houses at a time, residential builders were mass-producing communities of 500 to 1,000 homes. With seven or eight locks needed for each house, builders had to install at least 4,000 locks per tract. And that's where the quick installation of the Gateway locks paid off. Labor saved was profit earned.

Schoepe and Rhinehart named their new lock Kwikset, to underscore its installation speed and soon changed their company name from Gateway to Kwikset. Within that same year (1946), Kwikset sales reached \$500,000 and continued to grow. By 1948, the company and its expanding work force of 200 moved to a modern new plant in Anaheim, California. (See photograph 1.) Ten years later (1956) Kwikset became the number one manufacturer in the residential lockset industry.

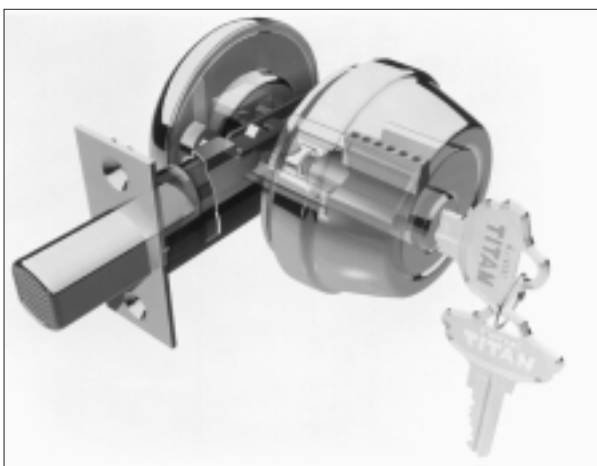
Manufacturing an innovative product was only one part of Kwikset's success. Providing strong customer service and good value were other factors contributing to Kwikset's expanding growth.

In 1957, the company merged with American Hardware Corporation (AHC) of New Britain, Connecticut and continued to experience success. The merger helped the AHC company become the industry pace-setter with its AHC Corbin & Russwin division leading in commercial and industrial locksets while the new Kwikset division continued driving the residential lockset market.

The next major corporate advance came in 1964, when AHC merged with Emhart Manufacturing of Hartford, Connecticut to become the Emhart Corporation. Business continued to grow under Emhart and in 1978 Kwikset opened their second

manufacturing plant in Bristow, Oklahoma. Kwikset continued to make gains within the lockset industry and a third plant was opened in Dennison, Texas, in 1989. That same year, Emhart was acquired by Black & Decker, with Kwikset recognized as one of its most important corporate entities.

Adding to their history of product innovations, in 1994 Kwikset introduced Titan's competitive cylinder program and new standard cylinder plug, both undertaken to meet trade demands. Kwikset's



2. The titan line, introduced in 1992, offers locksmiths a choice of keyways and Grade 2 quality

research showed that when replacing locks, consumers typically purchase the same brand because they want to ensure compatibility with their existing keys. In response to this research, Titan created additional value from its unique front removable cylinder by making competitive cylinders that allow the use of competitive keys in Titan products. (See photograph 2.)

Also designed to give greater flexibility for consumers to upgrade to Titan, a new Titan cylinder plug was created which could provide full compatibility between the Titan line and Kwikset products by allowing locksmiths the ability to pin the plugs to work with either 6-pin Titan keys or 5-pin

The new Medeco All-N-One cam lock offers locksmiths a Medeco cam lock that will fit a variety of applications from a single package.

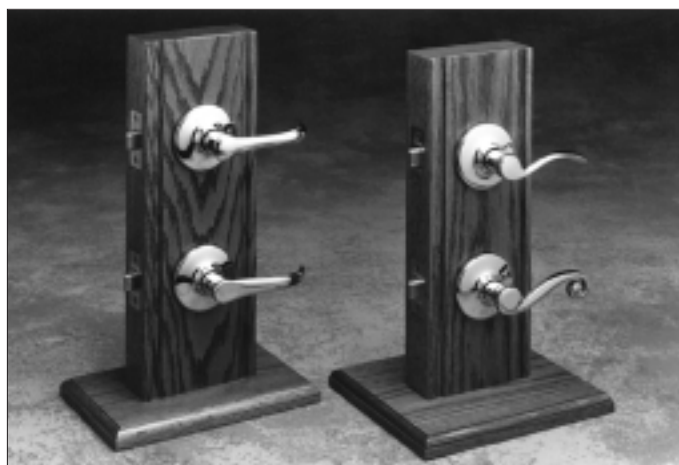


Kwikset keys. Both of these innovations allow locksmiths the opportunity to sell to nearly every customer the advantages of upgrading to the higher security Titan lockset without the expense of replacing all other exterior locks or cutting new Titan keys.

In keeping with the drive that has led them to celebrate 50 years in the lockset industry, Kwikset is introducing a Titan Commercial Series of keyed lever products and Kwikset brass sectional handlesets. The Titan Commercial Series levers meet all American Disabilities Act (ADA), Underwriters Laboratories (UL), and American National Standard Institute (ANSI) Grade 2 specifications. The Titan light commercial levers will be available in three designs and six functions.

The Kwikset brass sectional handlesets complement the existing line of handlesets. The two new designs of sectional handlesets have solid brass constructed handles which provide the right design and quality at the right price. (See photograph 3.)

TNL



3. The newly introduced Titan lever line



KEY CODES

'96 FORD
0001X-1706X

Note: Due to clamping differences between the HPC CM1200 and the Framon #2 machines, spacing and depth specifications are given for each. Make sure and use the correct clamping and specification instructions.

HPC

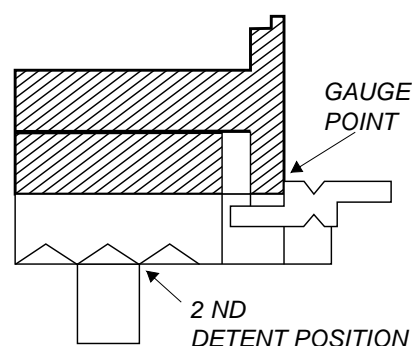
Code Card: CX101 or CMCT Micrometer card

Cutter: CW1011

Stop: Horseshoe

Clamping: Clamp the key butting the bottom groove up to Jaw A. (See illustration, directly below.)

| Depths | | Spaces | |
|--------|------|--------|------|
| 0 | | 1 | .845 |
| 1 | .236 | 2 | .753 |
| 2 | .211 | 3 | .661 |
| 3 | .186 | 4 | .568 |
| 4 | .161 | 5 | .476 |
| 5 | .135 | 6 | .384 |
| | | 7 | .292 |
| | | 8 | .200 |



Framon

Cut start: .405

Cutter: FC8445

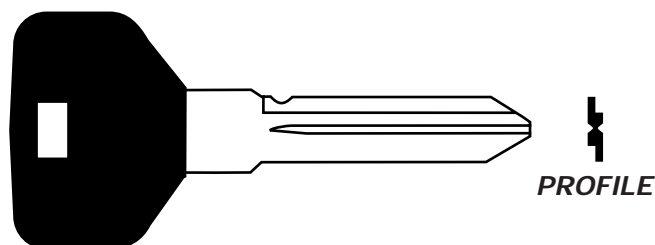
Cut To Cut: .092

Spacing Block: #3

Stop: F#2MS552 Spacing Clip

Clamping: Lay clip flat on left side of jaw. Slide key up to clip.

| Depths | | Spaces | |
|--------|------|--------|------|
| 0 | | 1 | .845 |
| 1 | .354 | 2 | .753 |
| 2 | .329 | 3 | .661 |
| 3 | .304 | 4 | .568 |
| 4 | .279 | 5 | .476 |
| 5 | .354 | 6 | .384 |
| | | 7 | .292 |
| | | 8 | .200 |



(Exact key illustration not available at press time.)

Year/Model

1996 F-Series Pickup
1996 Ford Ranger Pickup
1996 Taurus (PATS)
1996 Taurus (non PATS)
1996 Sable (PATS)
1996 Sable (non PATS)
1996 Mercury Villager
1996 Nissan Quest

Strattec Part Number

597638
597638
597602
597638
597603
597037
597037
596862 Primary Key
322351 Secondary Key

Groove

82 Groove
82 Groove
82 Groove
82 Groove
82 Groove
82 Groove
82 Groove
82 Groove
83 Groove



'96 FORD

0001X-1706X

| Code | Notching |
|-------|----------|
| 0001X | 13212112 |
| 0002X | 12312112 |
| 0003X | 35312112 |
| 0004X | 13122112 |
| 0005X | 11322112 |
| 0006X | 24422112 |
| 0007X | 12132112 |
| 0008X | 11232112 |
| 0009X | 13332112 |
| 0010X | 35332112 |
| 0011X | 13532112 |
| 0012X | 24242112 |
| 0013X | 12442112 |
| 0014X | 35542112 |
| 0015X | 12213112 |
| 0016X | 12123112 |
| 0017X | 11223112 |
| 0018X | 24323112 |
| 0019X | 13423112 |
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| 0021X | 12433112 |
| 0022X | 35533112 |
| 0023X | 13243112 |
| 0024X | 12343112 |
| 0025X | 24443112 |
| 0026X | 11353112 |
| 0027X | 35353112 |
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'96 FORD 0001X-1706X

| Code | Notching |
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| 0414X | 11355532 |
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| Code | Notching |
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| Code | Notching |
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| Code | Notching |
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| 1499X | 13543454 |
| 1500X | 24353454 |



'96 FORD 0001X-1706X

| Code | Notching |
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| Code | Notching |
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| 1702X | 13445355 |
| 1703X | 12135455 |
| 1704X | 24335455 |
| 1705X | 13435455 |
| 1706X | 24245455 |

NLI

NATIONAL
AUTO LOCK SERVICE, INC.

National Auto Lock Service, Inc. offers a wide range of equipment and services for the Automotive Locksmith. From tools and hard to find key blanks to transponder programming, we can take the mystery out of car service. We accept credit card orders, and can ship COD. Contact us for the latest in automotive technology.

THE LIGHTER SIDE

Continued from page 78

customers, suppliers, or fellow locksmiths. He nearly always gets a business card from those who have one. On the back of this he writes the date and occasion of their first meeting. Then he adds any little details that might help him remember who they are when he later reviews the information.

I've tried Don's method. It has its problems. For instance, have you ever tried to unobtrusively sort through a couple hundred business cards, frantically trying to find the right one, while carrying on meaningful conversation at a party with someone whose name eludes you? Then there's the problem of toting around all these cards, in the first place. Thank God for big purses!

Once, I even tried organizing my collection of business cards alphabetically. I bought some of those long, skinny books with the flip-up plastic pages and started to work. However, by the time I got all my collected cards into the proper little sleeves, I had a stack of books that would rival the Congressional Library.

Maybe the Hollywood set has the

right idea. Out there, nobody worries about names. Everybody simply calls everybody else "Darling." On second thought, I'm not sure how politically correct that would seem between some burly locksmiths I know—unless you welcome a punch in the nose. **TNL**

TECHNITIPS

Continued from page 108

Looking close to the latch side of the door, I saw a solenoid. Easy opening! Just pull up on it with an "L" type tool and you're in.

James Harding
Delaware

Key Code Keeper

When I'm called out to generate keys for a car, I record the codes (using my own unique coding for each vehicle) in my 128K organizer. I'm amazed at how frequently, I am called to generate keys for cars that I have previously made keys for.

At any rate, the first thing I do is to check for my code on that particular car. If it's in my organizer, I simply clip a new set of keys and am on my way.

Tony Gross
Canada

TNL

BITS AND PIECES

Continued from page 110

electronic security system that incorporates transponder technology. As much of the service information on this system are still not yet determined, stay tuned!

As a last word, with Strattec producing much of the new Ford lock products, a new code series has been released. Take a look at our codes on page 122 for the key specifications and bittings for the new 1996 Ford vehicles.

I want to thank those of you who called regarding a mix up on the codes we ran in July. The cover of the issue states that Kawasaki, Suzuki and Yamaha were to be included. As noticed, we did not run the Yamaha codes. Here's my explanation.

The Yamaha codes were, in fact, to be run for that month. A late release on the GM and Ford locks by Strattec, however, meant we either gave you the codes, or gave you the latest breaking news. We decided on the news, but by this time the cover had been completed and could not be changed in time to make our mailing date. As such, the Yamaha codes were run in August.

Thanks for your understanding. **TNL**

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HIGH SECURITY LOCKS

**Integrity. Ingenuity....
security solutions.**

[Click here for more information](#)

TEST DRIVE



**Taking Industry
Products for a Spin
Around the Block**

LOCKMASTERS' MONITOR/BORESCOPE SYSTEMS

PRODUCT: Lockmasters Video Monitor and Borescope package. Systems include borescope (of choice), camera, light source (of choice), monitor (color available), and lens adapters. Prices vary by components and packages selected. Lockmasters can be contacted at 5085 Danville Rd., Nicholasville, KY 40356-9531, (606) 885-6041, fax (606) 885-7093

PRODUCT DESCRIPTION: Due to the number of system configurations, the monitor/borescope system is sold by component and not as complete kits. We tested the following: Super Scope (\$1495), Mini Super Scope (\$879), camera with cable (\$295), lens adapters (\$250), light generator with optic cord (\$452), and b/w monitor (\$149).

FRIENDLINESS: Initial beliefs that a "kit" is more advantageous than offering separate components was quickly dispelled. One of the friendliest aspects of this system is that locksmiths/safemen need order only what they want, when they want. A system can be purchased all at once, over a period of time, or pieces purchased to fit already owned equipment.

FEATURES: The borescopes used were the Super Scope, offering a prefocused, corrected view lens with a 90° view; and the Mini Super Scope, offering manual focus through a focus ring and a 60° view. While both offered excellent views of the internal lock components, the Mini Super Scope offered a better field of view at close proximity to the wheel pack.

While a battery powered light source can be used, we were offered the use of a 150 watt light generator

and the optic cord compatible with each scope.

Taking the pictures is a miniature CCD camera, roughly one-half the size of a pack of cigarettes. Connecting the camera to the scope is accomplished through the use of the lens adapter. Two adapters were provided, one to fit each of the two scopes.

The camera screwed into one end of the adapter. The scope was held to the other end via three tiny set screws. As the use of set screws may avert some locksmiths from using this adapter, another style is available. It fits on the Super Scope only, but uses a non-marking clamp instead of set screws. Cost for this adapter is \$595.

Once the system was assembled, we inserted the scope into our test

safe. The results were amazing. Easily viewed was the entire workings of the lock. Being able to view everything on monitor eliminated the fatigue caused by peering through the scope. Also, it is easier to distinguish exactly what is being viewed.

COMMENTS AND SUGGESTIONS: While a little difficult to purchase all at once, the benefits of working off a monitor pays for itself. Fatigue is dramatically reduced. For technicians with poorer eyesight, this is a dream come true. For those with good eyesight, why waste time squinting through a scope.

One recommendation can be made, however. Because the system is a compilation of components, there are no directions on how to set up the system. Clear directions on how to assemble the system would be greatly appreciated. (I've been told that this is in the works.)

CONCLUSION: The benefits, both short and long term, of the scope/monitor system are well worth the investment. **TNL**



DESCRIPTION:
Borescope/Monitor
Systems by
Lockmasters, Inc.

COMMENTS:
Dramatically reduces
fatigue and fatigue
related errors.

TEST DRIVE RESULTS:
While remaining affordable,
a scope/monitor system is
an excellent example of
state-of-the-art safe
servicing techniques.