

July 2003
Volume 74
No. 7
\$7.00

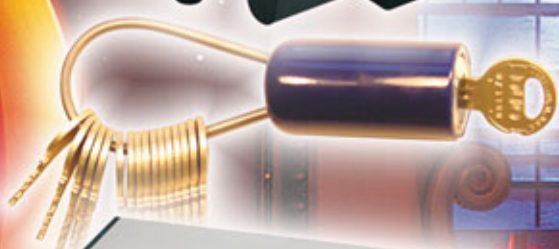
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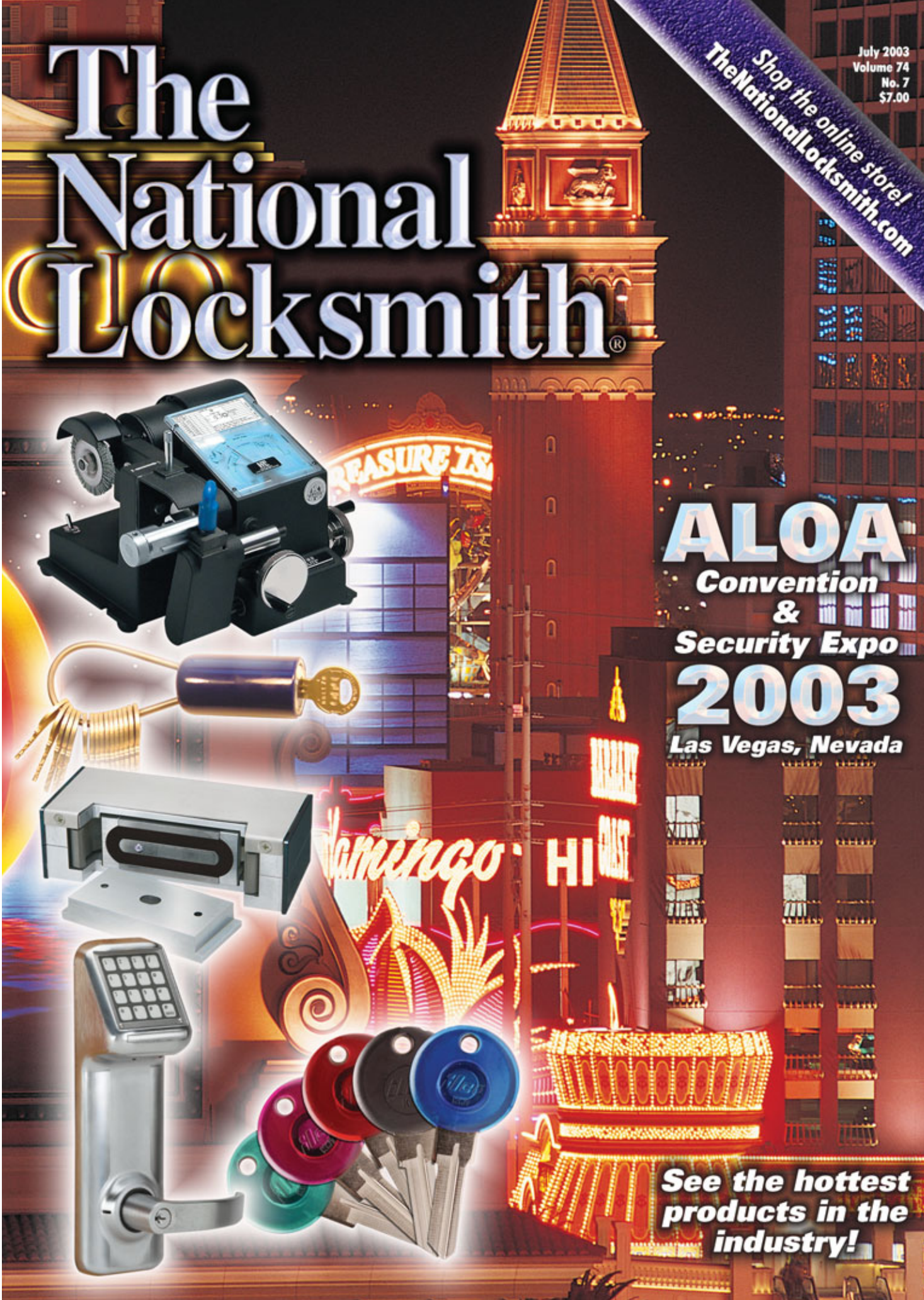
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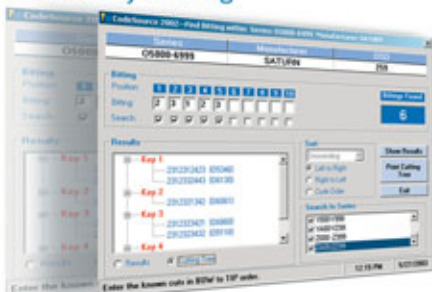
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3

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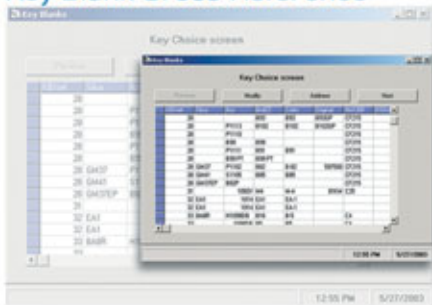
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Comprehensive Customer Database



5

Key Blank Cross Reference



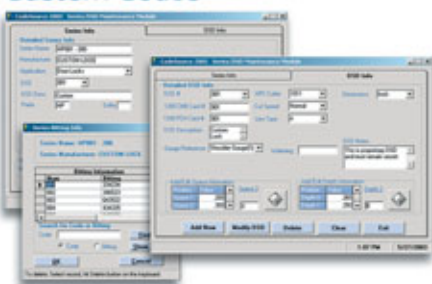
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Code Card Printing



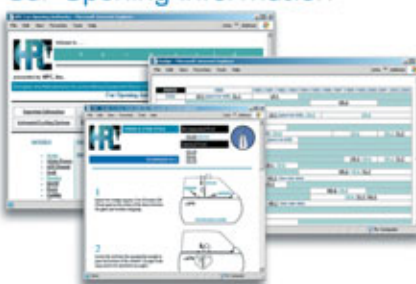
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Custom Codes



8

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Circle 360 on Rapid Reply

On The Cover...



The only sure bet in Las Vegas in July is one placed on this years ALOA Security Expo. With a variety of education available and exhibitors displaying their wares, you can't lose.

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National Publishing Company
 The National Locksmith® ISSN #0364-3719 is published monthly by the National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861. Periodicals postage paid at Bartlett, Illinois 60107 and additional mailing offices USPS 040110. Subscriptions \$46.00 per year in the USA; \$58.00 per year in Canada; \$72.00 in all other countries. Single copies \$7.00 each. Postmaster, please send change of address to National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107-1861.
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Locksmiths make the news!

In a continuing effort to monitor news organizations, I've found two more mentions of our profession in the news that run from tragic to ridiculous.

Locksmith called to an eviction gone wrong!

WEDDINGTON, NC - What could have been a clear-cut procedure to evict William C. Kennedy, 44, from this bedroom community home turned into an armed standoff and fatal blaze that destroyed the home Wednesday. Authorities later found a charred body, which they say may have been Kennedy's, surrounded by guns.



The events began when Union County Sheriff's Deputy Johnny Kay knocked on the door shortly after 10 a.m., authorities said. No one answered and a locksmith had to open the door.

When Kay, the locksmith and another worker entered the house, bullets, fired through an interior wall, greeted them.

Kay returned fire with his .45-caliber pistol, Sheriff Eddie Cathey said, and began to crawl backward as he fired. Within a minute or so, a second squad car arrived and a deputy carrying what appeared to be a shotgun got out of the car, Mussen said. Then Kay ran from the house, unharmed.

Snipers and SWAT team members began to arrive. But the wood and brick ranch home caught fire and quickly became engulfed as the shooter continued to fire from the windows.

Cathey said authorities didn't return fire and none were hit. He said they heard hundreds of rounds of ammunition exploding in the flames. By midday, the flames had razed the home, killing the shooter inside.

At least the locksmith didn't have clean up the horse hockey!

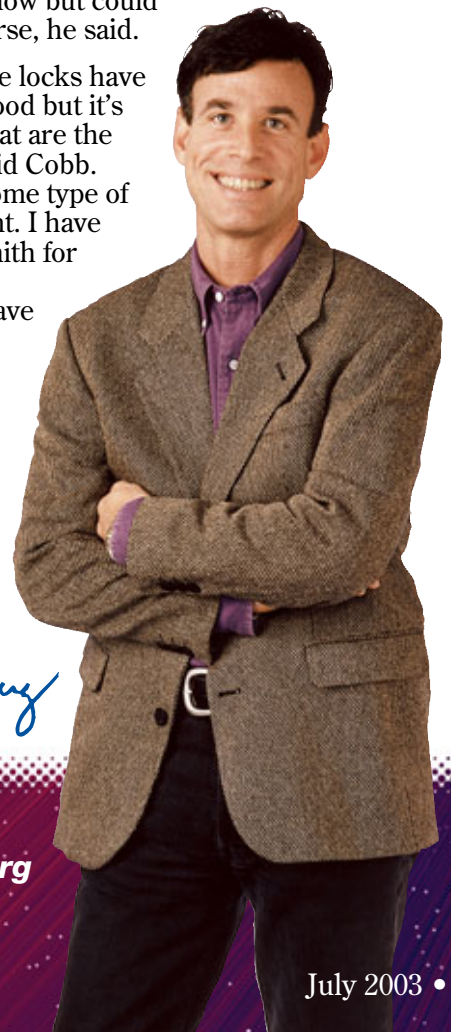
WRENTHAM, MA — Police and school officials searching for those who vandalized King Philip Regional High School yesterday can check off at least one name on their list.

Sam Raymond, a KP senior from Wrentham, admitted yesterday to dumping two tons of horse manure on the front lawn of the school, but said he didn't know who spray-painted the walls, threw paint on the doors, stopped up the door locks or stuck plastic utensils in the grass in what appeared to be a senior class prank.

Locksmith Raymond Cobb, of Cobb's Lock and Key in North Attleboro, had been working since 8 a.m. clearing the locks. The process was slow but could have been worse, he said.

"Most of the locks have been pretty good but it's the last few that are the problems," said Cobb. "They used some type of contact cement. I have been a locksmith for more than 30 years, and I have never seen anything like this."

Did he mean the locks or the, um, piles?



Marc Goldberg

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Marc Goldberg
Publisher

Mango's Message

Master Key Vulnerabilities Revealed, Part 5 Closing Arguments.

This is the last installment of “Master Key Vulnerabilities Revealed.” Yes, it has been a long series, but I hope you found the editorials interesting, enlightening, usable, and informative.

Dear Greg,

This situation that Mr. Blaze has brought to the front and center of the locksmith world leaves me with mixed feelings. I am dismayed that Mr. Blaze felt that he had a responsibility to apply his skills in the way that he did, and to utilize the method he chose to disclose what he learned. Even after reading all of the material that he uses to reinforce his position, I am not sure what his intent is, or how sharing a master key systems vulnerability helps anyone. I realize this sounds like I am wishing this had never happened, and that we could go back to the way things were. I don't feel that way at all! I do, however, resent the implication that I am deliberately withholding critical information that most people could care less about!

In the physical security world I have found that at times I can provide better security when I provide a direct security path from “point A to point B,” rather than providing numerous options, details and list each and every vulnerability. Many of my customers are only interested in what impacts them directly, even when I try to provide them with more information and show them other ways that they may be vulnerable.

As I reflect on Mr. Blaze's reasoning that you have shared with us, I find that I have a few questions.

1. Is Mr. Blaze sharing the information that he and his fellow cryptologists discover in computer security vulnerabilities, using the same method that Mr. Blaze has regarding master key systems?

2. Is Mr. Blaze aware that when we try to share information with our customers about the vulnerabilities of master key systems, that our customers usually do not fully understand what we are telling them? And that the resulting confusion usually helps no one?

3. Has Mr. Blaze actually put into practice what he writes about with such authority? Hand filing a working key usually requires more skill than what he confidently states.

I have worked as an in-house locksmith for the last 17 years, nearly every day with a master keyed lock. I believe that I am as good as most locksmiths when it comes to master key systems. I have read each of your articles as well as those from your

competitors. The way I see it, we have at least two options in dealing with this situation.

1. Use it to our customer's benefit.

2. Whine and complain about this situation and let everyone who chooses option 1 above, to improve their businesses and steal our customers.

I am using these articles as a way to sell my employers on the need to upgrade our locks, preferably to card access, or to finish expanding our high security lock system. I have recommended that we do this either on a floor-by-floor or department-by-department basis, which requires less money than what is needed to upgrade a whole building.

Gaylord Hanson

Andrews University Locksmith

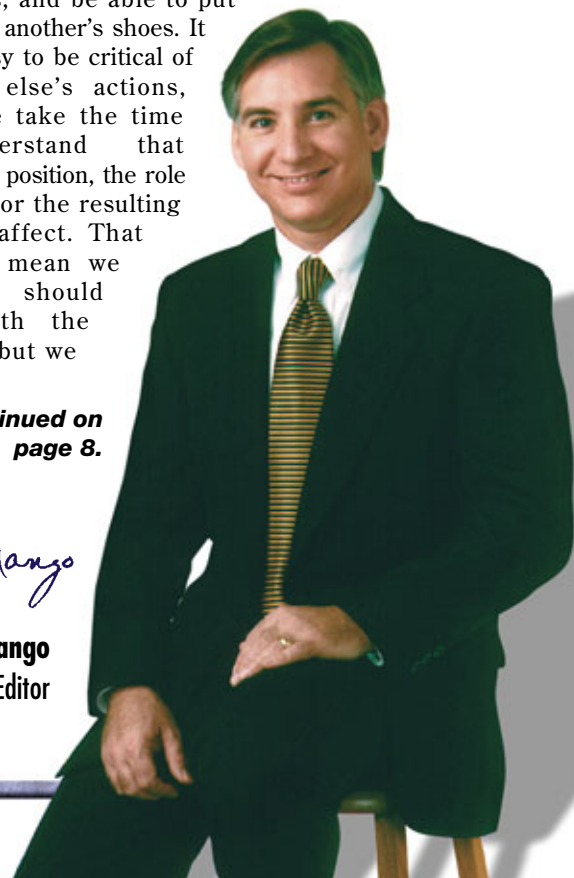
This is just one of several locksmith responses I received.

To truly analyze and critique the “Master Keying Vulnerabilities Revealed” article, I believe one must wear many hats, and be able to put yourself in another's shoes. It is very easy to be critical of someone else's actions, unless we take the time to understand that individual's position, the role they play, or the resulting personal affect. That does not mean we must, or should agree with the outcome, but we

Continued on
page 8.



Greg Mango
Editor

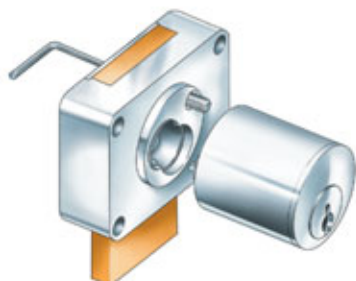


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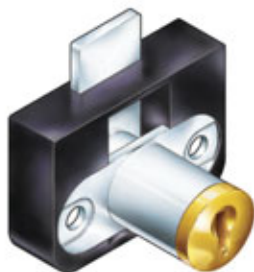


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Continued from page 6

should first unbiasedly dissect all the parts of the sum, to fully understand the whole.

To start, let's put ourselves in the shoes of Matt Blaze, because it is from here that the resulting story evolved. Remember, you are not a locksmith, you are now a cryptologist working for an AT&T Research Lab.

As an AT&T Research Lab cryptologist, your job duties include: security and cryptology, trust management, smart cards, cryptographic protocols, large-scale systems, physical security, and cryptography policy.

During your daily duties you learn about a method that can circumvent pin tumbler master key systems. As a researcher with an inquisitive mind, you decide to investigate, fueled by the fact that the very building in which you work utilizes a master key system.

After applying a few theories, mathematical formulas and a little trial and error, Bingo! You have experienced, and uncovered the holy grail of master keying. As a researcher, that has to make you feel pretty good. You inform the brass at AT&T about your discovery and the potential vulnerability, and they in turn give you an atta-boy for a job well done.

In your delight you share your newfound discovery with your inner circle of researchers, post it on your website and before long the *secret* is out. Soon your phone is ringing with a bloodhound reporter on the other end sniffing out a story about your master key vulnerability findings. A couple weeks later there you are, on the cover page of the business section as the resident expert for the lead story in the pages of the largest newspaper in the country. What's wrong with that?

Quite frankly, the only aspect of this scenario I have an issue with is the fact that Mr. Blaze detailed his findings on his web site. To inform the public about master key vulnerabilities could be considered a public service. To detail the procedure used, only benefits those who would be interested in circumventing a master key system. The public needs to know that the vulnerability exists, as well as how to prevent such an occurrence if interested. It may be of interest, but is of little use for the general public to know in detail how to breach a master key system.

O.K., now let's put on the shoes of *The New York Times* Press Pass carrying reporter John Schwartz. Once again, remember, you are not a locksmith, you are a newspaper beat reporter whose job is to write a story about *something* everyday. To be recognized as a top notch reporter, you want your pros to appear on the cover page, which means it must be a strong lead story. As a roving reporter on the trail of a story on master keying vulnerabilities, you must ask yourself: Is the story true? Yes.

Is the story interesting? Yes.

Is the story new to your readership? Yes.

Is the information accurate and factual? Yes.

Is the source of information reputable? Yes.

Does it serve a public interest? Yes.

Does it warrant space in the newspaper? Yes.

Do you know Who, What, Where, When and Why? Yes.

Does the story have cover material punch? Yes.

O.K. Mr. Reporter, do you write the story? Should *The New York Times* print the story?

As a fellow Press Pass carrying journalist/reporter, I can tell you that yes, I would have written the story. Why? Because the story contains all the elements a reporter looks for: interest, fresh/new information, facts and intrigue. But, most importantly, because I know this story would have an impact, or be of interest to a large segment of my readership. Why would I know that? Because a large segment of the population (knowingly or unknowingly) live either some of their life, much of their life, most of their life, or all of their life, behind a door with a lock that is master keyed.

I can also tell you that as an editor who determines an articles focus, what is contained in a story, and whether it gets printed in the pages of my book or not, yes, I would have printed the story.

Quite frankly, John Schwartz and *The New York Times* did *their* job. Mr. Schwartz sniffed out an intriguing new story, assembled the facts, and presented it in cover material fashion. He informed his readers of master key vulnerabilities (which is what a reporter is supposed to do) in an unbiased fashion without revealing the actual method used. His story does not jeopardize the security of existing master key systems, nor does he put the public in harm's way. He informs without revealing sensitive information, which is all his readership needs. Yes, as locksmiths we can critique his story with a fine tooth comb and exploit every inaccuracy or shortcoming, but the average *New York Times* reader isn't seeing that. Obviously as a locksmith, I would have written the story a little differently and provided more tangible solutions, but I would have written it nonetheless, even though we all know there are much easier ways to defeat a master keyed mechanical lock.

As the disseminator of *information*, *The New York Times* printed the story, just as it should have.

O.K., now you can put your locksmith hat back on.

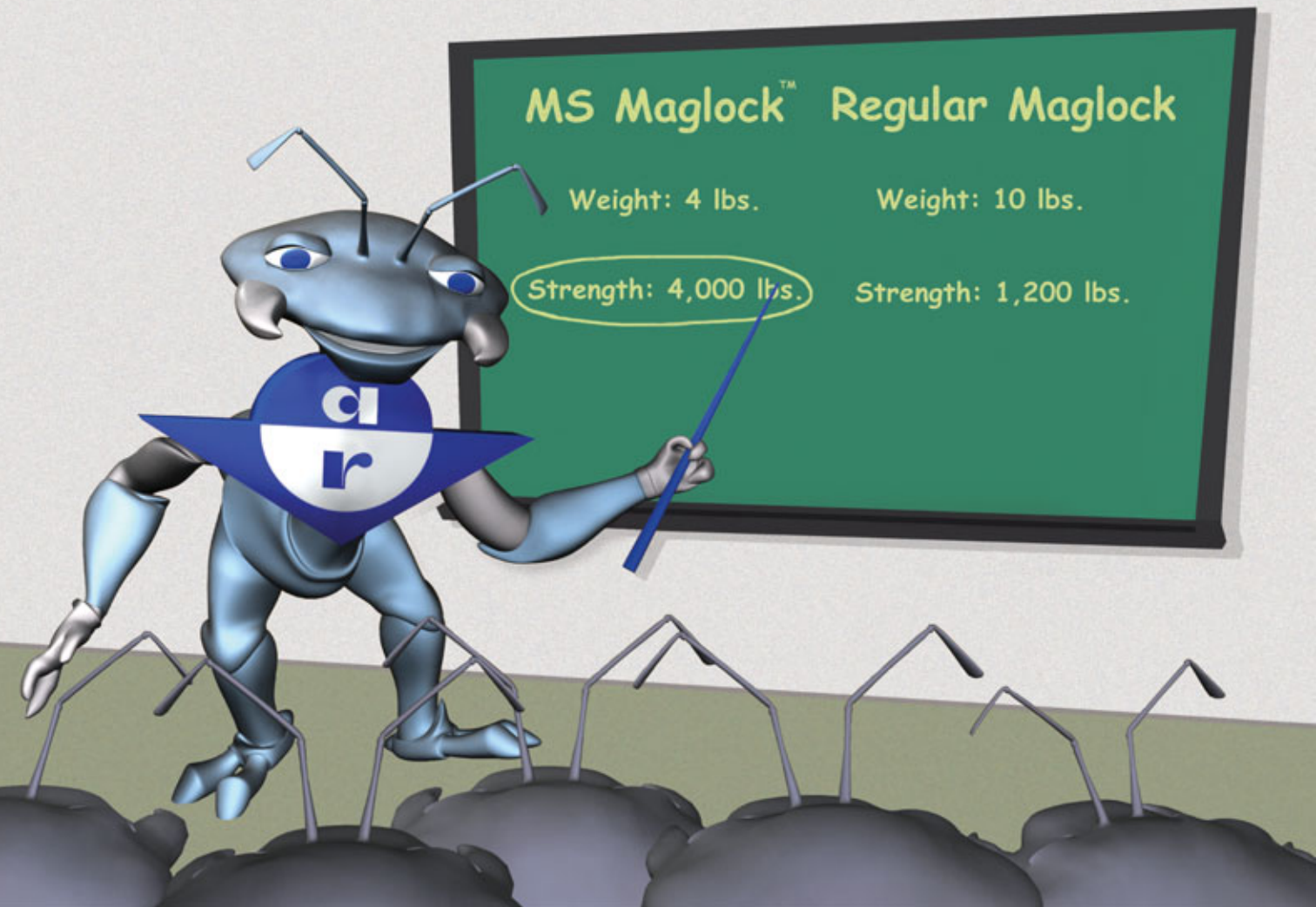
Why Matt Blaze did what he did, and whether *The New York Times* should have printed the story is at this point irrelevant. The fact of the matter is, he did, and it did. The real topic of discussion should be, how is the locksmith industry going to respond? I say use every bit of information available regarding master key vulnerabilities to your marketing advantage. This story is a blessing in disguise. You now have more information than ever to warrant the use of high-security key controlled mechanical locks, or electronic access control systems. Now's your opportunity to turn lemons, into lemonade and reap the rewards by not only providing better security for your customers, but also adding to the bottom line. Every customer I had with a master key system would get a copy of *The New York Times* story, and be made aware that the actual procedure used to circumvent their system is on a web site.

The key in life is not what you have, but what you do with what you have that really counts. You have been handed a tool with which to build by. Use it!

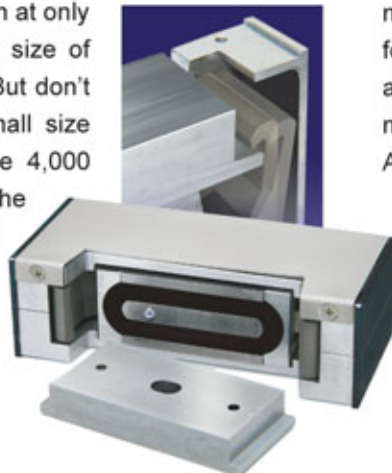
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Circle 392 on Rapid Reply

Letters

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

Opening Without Permission

I read with interest the "Tale of Two Gun Safes" by Dale W. Libby on pages 68-69 of the March 2003 issue. Mr. Libby is either greedy for money, or just doesn't know any better. Nobody would open a gun safe without the husband's knowledge, and only on the word of a lawyer. Can you imagine the liability involved? What if there were guns or a large amount of money inside? Dale said that he was assured that he wasn't in any danger of a lawsuit from the husband. (I sure wouldn't use that lawyer for my lawyer.) Lawyers are wrong sometimes.

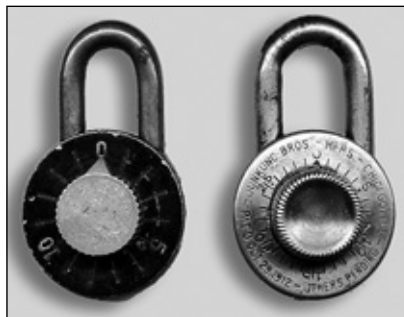
Also, what would have happened if the husband came home early and decided to bill Dale? (That's worse than a lawsuit.) What would the lawyer say then? Sorry Dale, I was wrong.

Come On Dale—Get Real!

*J.F. Nowack
Michigan*

American Padlock

I read this issue with the interest that I always do, but when reading Bob Sieveking's article about the American Lock Company, the first picture that is labeled "1. The original keyless padlock." Well that is where I have the problem, the padlock pictured was Patented Jan. 31st 1922, and the first Junkunc Brothers combination padlock as told in the article was Patented Oct. 29th 1912, so the picture of the "First" "keyless" padlock should look like the one in this picture on the right.



As you can see the Patent date on the face does match the year of 1912 as told in the article and in the picture published you can see the date Jan. 31, '22.

*Greg Rash
Washington*

045 Critique

I do not usually criticize things I buy, but I purchased the 045 key machine and was both delighted and disappointed. In an article that Sal Dulcamaro wrote, he is correct in saying that it is a wonderful manual machine. Don't get me wrong; I really like it in my small business.

I didn't get the chip cup addition; it serves no purpose except to be



knocked off to the floor. The vices in my opinion are about 1/2" to wide. There is no place for a wheel cover to help with fillings which fly everywhere *except* into the cup. The one feature that makes it worth the price is the adjustment.

I have two 025's an old Duplicon (which still works) one 2485 duplicator, the HPC 1200 CMB and now the 045. I really like it except for the few things I mentioned that I think could have been a little better.

*Leslie Veach
Oklahoma*

Finch Tool

In reference to the letter you wrote wanting the address of Gerry Finch. I bought the interchangeable core lock pick set from Gerry Finch's son; he is in charge of all locksmith tools and publications.

His address is:

Gerry Finch Locksmith
Publications and Tools
3901 W. 176th St
Torrance, CA 90504
Phone: 310-515-2643

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Abloy Protec

Abloy Protec's new one piece sealed disc controller does not need to be prepped, making the cylinder very smooth in operation along with eliminating any wear on both the key and cylinder. With almost 2 billion combination possibilities per keyway available, Abloy Protec can create some of the largest master key systems in the world.

The UL listed rotating disc cylinder does not rely on springs or pins. Turning the all-metal key with its angled cuts acts directly on the 11

rotating discs to form the combination. Since there is no resistance when the key is inserted, there are no worn or broken keys.

Abloy Protec's hardened steel cylinder housing resists picking and manipulation. Key blanks are patent protected and require a dedicated key machine to cut the unique angled keyways.



Digital Systems

The Digital Door Lock is a total mechanical, easy to use combination lock system. The combination can be reset in a matter of minutes, making this lock ideal for homeowners as well as businesses. It is simple to install and built to last. This is the same lock that is used in the Eiffel Tower! The locks come conveniently boxed.



DORMA Heavy-Duty Mortise Locksets

DORMA Architectural Hardware's ML9000 and MK9000 Series Grade 1 locksets, built with a heavy-duty mortise chassis, deliver premium performance and pleasing aesthetics in a variety of commercial and institutional applications.

Ideal for schools and universities, hotels, apartments, hospitals and nursing homes, municipal buildings, airports, retail complexes, offices and warehouses, the 9000 Series mortise locks are engineered for exceptional reliability. Select components are manufactured with high-strength steel or stainless steel, providing a strong, highly durable lock.



For example, the 9000 Series locks include special, high-strength springs and a positive stop to eliminate unsightly sagging levers. A special hardened steel hub design prevents damage to the lock when lever handles are abused.

Kustom Key Deadbolt

Kustom Key Inc., famous for their personalized K3 Neuter Bow Keylink, has a new Guardman Lock Line. "The positive input and support we have received from Locksmith Professionals all around the country has encouraged us to keep improving and expanding Guardman," says Tony Profera, Director of Marketing for Kustom Key Incorporated. The success of both their D101 and 8211 Deadbolt has spawned a double cylinder version of both of these deadbolts with the 8211 now being offered in the KW1 keyway as well as the SC1 keyway.



The 8211 offers heavy-duty service and security features unheard of in this price range. The 8211 is available in US3 and US32D and the D101 is available in US3 and US5. Both models are shipped individually, boxed with an adjustable latch featuring a 1" throw deadbolt with hardened steel roller inserts, precision manufactured cylinders that work perfectly with O.E.M. pin kits and durable finishes.

Kwikset UltraMax Security™

Kwikset offers Grade 1 deadbolt security in the new Kwikset UltraMax Security™ line of door hardware designed, produced and distributed for the residential construction and residential home markets. Highly resistant to violation, Grade 1 deadbolts provide



superior resistance against forcible entry. Extensive testing for strength and durability of Grade 1 deadbolts include kicking, lock picking, and attacks with sledgehammers and wrenches. Kwikset offers UltraMax Security line deadbolts in single and double cylinders. The deadbolts are also featured on the Arlington, Chelsea and Sheridan handle sets, which feature a titanium-alloy throw bolt core, a 6-pin cylinder with anti-pick pins, and an Ultra-Strike Door Jamb Brace™ designed to prevent forcible entry.

Kwikset UltraMax Security products including the new Grade 1 deadbolt are being introduced as part of the Kwikset initiative, which feature three new Kwikset brands, core product introductions, innovative features, and clear concise communication.

MAG Security

MAG Security continues its commitment to design and manufacture hardware products on which security professionals can rely. MAG is proud to introduce over 200 new items that compliment our existing door reinforcers, latch guards, strikes, filler plates, patio and window security hardware, and our latest addition to our family, architectural



hardware. Our new merchandising displays that portray product from these categories will be displayed and available for distribution to the security professional.

MACLOCK Multi-Lock Blade System

The MACLOCK 1500 is a universally compatible blade locking system for entry doorways. Currently available with a Kwikset compatible locking mechanism, the new system will be compatible with Kwikset, Schlage, and a number of other commonly used deadbolt systems



Rather than including a lock, the new kit will have interchangeable mechanisms allowing the blade locking system to be used with a number of different manufacturer's locks.

Blade locking systems are revolutionizing the deadbolt industry. Their unsurpassed safety, security, and aesthetics give them a broad appeal for the security-minded consumer who doesn't want to feel like they're living in Fort Knox.

Markar Architectural Products

Markar Architectural Products, Inc. is pleased to announce our new FRP Advantage Door with a UL Classified fire rating for 1-1/2 hrs. Some of the features of this integrated door system include a non-combustible mineral core, impact-resistant FRP face sheet, an HG 305 stainless steel continuous hinge guard and an EG 308 stainless steel edge guard. More information on the FRP Advantage Door may be found in our new price book coming out in June.



Continued on page 16

Half the Cost, Twice the Quality!

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KLASSY KEYS

Introduces the...

American Classic Collection[®]



KW1
SC1
WR5
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65¢

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104-USMC



100-EAGLE



105-POW-MIA



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or visit us on the web at **www.klassykeys.com**

PORTION OF PROCEEDS DONATED TO THE P.O.W. NETWORK

Multi Lock

Straight satin finish, ADA compliant reversible handles for wire mesh partition security area locks are now available from Multi Lock. Measuring 6.41" x 3.59" x 1.00", the die cast aluminum case has a mounting groove around the middle and operates with a solid brass hinge bolt or slide latch. The lock has a standard five pin by 15/16" mortise cylinder with an A/R cam, and any length cylinder will fit with the addition of a cylinder ring. The unit fits Marks locks. Custom finishes and special handles are available.



Omnia's Latest Designs

Specified by architects and designers alike, Omnia's modern levers 905, 910 and 915 are particularly stylish; an appropriate choice whenever or wherever the desired look is sleek and contemporary. A mere taste of over sixty knob and lever designs, Omnia offers designs fitting for both traditional and contemporary motifs.

Readily available in satin Nickel and satin chrome plated, as well as polished chrome and brass; Omnia's 905, 910 and 915 levers are also available in an assortment of special finishes.



Omnia's modern lever collection can be used in many applications, residential or commercial. The 905, 910 and 915 will fit Omnia's tubular latch sets, narrow plate latch sets, their UL listed mortise locks, deadbolt locks, and narrow backset locksets.

Secure-Ur-Home Door Locking System

The Secure-Ur-Home door locking system has three locking positions to allow a homeowner to partially open the door to see who is on the other side. The system circumvents the common problem of deadbolts, which only send a bolt into the frame of the door or door chains, which can be easily ripped off the frame of the door.



What makes this product unique is that when the door is locked, not only is the doorframe bolted, but also a steel bar is sent into the floor. Plus, one of the locking positions enables the homeowner to bolt the door in a partially open position. If the intruder is on the other side, the homeowner can safely leave the door in the position and call for help.

SELECT Hinges™ Replace Failing Hinges For Life

Doors with butt or pivot hinges can sag and bow, causing locks to fail. SELECT full- and half-surface continuous gear hinges salvage doors and frames and solve door problems, helping facility managers avoid maintenance costs and headaches for life. Independent lab tests on an FRP door confirm that SELECT Hinges™ will perform well over 5,000,000 cycles, more than some building entrances see in a lifetime.



SELECT Hinges™ are guaranteed for the life of the entrance because exclusive Pair-Matched™ components and lifetime lubricants assure years of trouble-free hinge performance. And SELECT provides the industry's fastest delivery time.

AUTOMOTIVE

ABLE's Ford Kit with Chrysler Adapter

An adapter for Chrysler products has been added to the Aable Locksmiths U1 Ignition Removal Kit. With the tool, a locksmith can open in less than five minutes all 8 cut, Chrysler, Dodge and Jeep ignitions with no damage to the lock. The adapter will be offered free for a limited time with the purchase of the U1 kit for Ford flush mounted ignitions and Ford Focus side bar and no side bar type locks.



The U1 kit consists of one force tool to remove faceplates, three numbered drill bits and arbors for speed on different cars, one side bar pressure tool, one turn wrench, three different drill guides for access holes, one tumbler holding tool for assembling and disassembling, three sets of photo

Continued on page 18



COMBINATION. REMOTE ACCESS. PASSAGE FREE. LOCKOUT.
(Talk about pushing all your hot buttons.)

SIMPLEX[®] Effective. Flexible. Convenient. Economical.
3 1 0 0 The new Simplex[®] 3100 is the only mechanical pushbutton lock for narrow stile glass doors. Easy to install and manufactured to the highest standards, it provides access control through combination, passage free and lockout modes. Plus an optional

electric release eliminates the need for magnetic locks and electric strike plates. This is affordable access control—without keys, magnetic cards, computers or batteries. And its one-hand operation makes it ADA compliant. So if you are searching for economical keyless convenience, the Simplex 3100 certainly narrows your choices.

1-800-849-8324
www.kaba-ilco.com

Circle 353 on Rapid Reply

 **KABA[®]**
TOTAL ACCESS

instructions showing the different locks, and the Chrysler adapter.

High Tech Tools

The One Hand Jack™ (Patent Pending) from High Tech Tools is a revolutionary new Jack tool with a built in rubber pivot. The OHJ works quickly and easily for emergency openings. When used in conjunction with the High Tech's Ballistics Nylon Air Jack wedge most vehicles can be unlocked in seconds.



LTI Unlocking System

The LT-130 Door Unlocking System from Lock Technology Inc. easily opens most vehicles on the road today without entering the door panel. This system includes the LT-125 Easy Access Door Unlocking Kit and the LT-275 Inflate-A-Wedge. The kit includes a 54-inch fluorescent green Easy Access Door Unlocking Tool; two LT-271 plastic door wedges, and the LT-100 Plastic Slip Jim. The system comes individually packaged in a custom craft cardboard box.



Lockmasters Keyless Remote Check

With keyless remote technology quickly becoming the standard for today's automobiles, the consumer is often caught off guard when they realize fobs require batteries.

Provide your customers with a little extra when you check their keyless remote and start moving high-margin batteries in no time. Lockmasters' Keyless Remote Check allows you to check the status of customers' Keyless Remotes in seconds. This portable, hand-held unit allows the battery to be checked without disassembly of the remote.



Simply place the fob against the specified test area on the front of the unit and in seconds you'll know the battery status. The easy to read LED indicates "strong", "good", and "replace battery" status. This inexpensive, lightweight unit features an auto-off function that helps save battery life, and features single button, easy operation.

PRO-LOK's New 2003 Car Opening Update is Here!

Includes New Models: BMW Z4; 03Cadillac CTS; Honda Civic Si; Honda Element; Honda Pilot; Hummer H2; Infiniti FX45; Infiniti G35; Infiniti M45; Isuzu Ascender; Kia Sorento; Lexus GX470; Lincoln Aviator; Lincoln Blackwood; Mazda; Mercury Marauder; Mini Cooper; Nissan 350Z; Nissan Murano; Pontiac Vibe; Saturn Ion; Subaru



Baja; Suzuki Aerio; Toyota Corolla Matrix; Volkswagen Beetle Convertible; Volvo XC90; and more...

2003 UPDATE FACTS & FEATURES:

The Update covers the latest foreign and domestic vehicles on the road. Each page is devoted to one vehicle and contains complete information on the tool and technique required to open the vehicle. The 2003 update contains hundreds of crisp, clear, FULL COLOR photos. The 1st photo will identify the vehicle, the 2nd photo will show the position of the tool on the vehicle and the 3rd photo will show the actual opening procedure. (This may be a door panel off photo or an inside the vehicle photo depending upon the application.) The written instructions are clear, concise and easy to follow.

SDD Diagnostic Tool

The SDD (Silca Diagnostic Device) is a unique diagnostic tool capable of adding new Transponder keys to a vehicle's central computer. Security professionals no longer have to depend on, On-Board programming procedures to add Transponder Keys; The SDD quickly and easily originates new keys even when the customer has lost all existing keys. Designed and programmed to fit the needs of North American automotive key cutters, the SDD offers a range of features and vehicle compatibility unrivaled in today's market.



Don't send your customers back to the dealership; the days of turning away high yield automotive jobs are over. The SDD is here.

Sieveling Products Co.

Sieveling Products Co. has introduced the 2003 fifth edition of Fast Facts™ the encyclopedic index of auto and motorcycle key making facts. Fast Facts™ lists over 2700

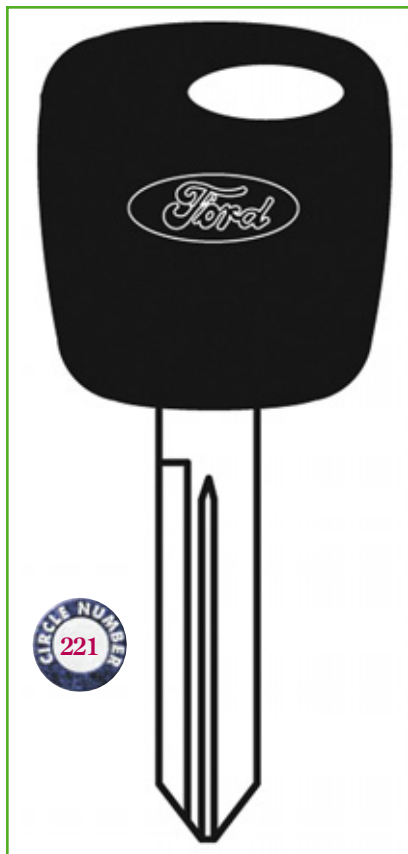
Continued on page 23



listings (1960-2003), with 390 auto key plates and 143 cycle key plates. The fifth edition is available in the convenient spiral bound 6" x 11" desk size. The new Fast Facts has added many new ITL numbers, Pak-a-Punch information, HPC CodeMax Numbers, Aero & Baxter Try-out Keys and Jet key numbers. Expanded "Helps" section includes all the latest "Transponders," the newest key numbers, code series and step-by-step transponder originate, duplicate and emergency start methods.

STRATTEC Brings Back Popular Original Logo Keys

STRATTEC Security Corporation announces the reintroduction of two original transponder keys that were



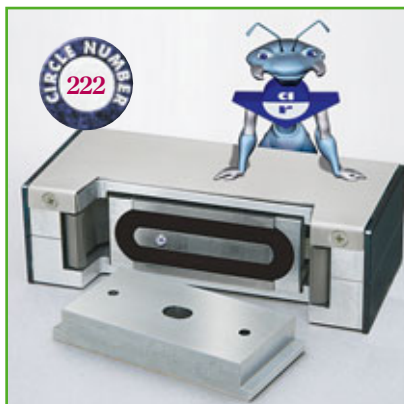
favorites of the consumer. The Ford logo 597602 and Mercury logo 597603 will be made available to the public beginning April 15, 2003, with both keys having the same applications as the 598333 key.

After receiving many requests from the industry, these products return to the marketplace providing customers with a key featuring the manufacturer's logo, and peace-of-mind they can get only with genuine original equipment parts. For more information about these keys or other OEM quality products from STRATTEC, contact your distributor.

ELECTRONIC SECURITY

Adams Rite MS Maglock®

The MS Maglock® combines the convenience of an electromagnetic lock with the strength of a mechanical lock in a small, 6" x 2-3/4" x 2" package. Unlike normal maglocks, the unique design of the MS Maglock® utilizes a pair of spring-loaded steel mandibles that instantly clamp the armature if forced entry is attempted. With mechanical jaws engaged, its holding force is an incredible 4,000 pounds.



Unique circuitry allows the device to be integrated with almost any access control system, including keypads, card readers, pushbuttons, and biometric access control devices.

The MS Maglock® will perform to its maximum holding strength on any supplied.

Voltage from 12 to 24 volt, either AC or DC. A special mounting plate and installation template provides perfect alignment between the maglock and armature. At four pounds, the MS Maglock® is

technician friendly and easy to install on in-swinging or out-swinging doors of all kinds.

Baran/Tec Keypad with HID Proximity Reader

Baran/Tec, Inc. has recently introduced the Everswitch Prox, a combination of a virtually indestructible metal keypad with an HID proximity reader, giving end users the best of both worlds for the first time.

With the Everswitch Prox, the security industry now has the option of an easy to install, vandal proof, waterproof and weatherproof keypad and prox reader that has no external housing and requires no maintenance or repair for their access control systems.



By utilizing a patented solid-state piezo design in the Everswitch Prox, Baran/Tec has developed a totally sealed, all metal product that has no moving parts and therefore boasts unprecedented life expectancy and can be combined with proximity control for added security. The totally sealed, all-metal construction meets and exceed most standards and is ideal for high traffic, hazardous or extreme user pattern applications.

Cansec's Zodiac Lite Stand-Alone Fingerprint Reader

Zodiac Lite is a new stand-alone "fingerprint only" reader designed



for single door/device applications for up to 90 users. Using a battery operated, hand-held programmer, users are enrolled directly at the unit. No software or PC is required. Once a user is authenticated, a signal is sent to the included Door Control Module installed on the secure side of the door. It is a fact that a very small percentage of people cannot be enrolled due to injury or unreadable fingerprints. In this circumstance, a Zodiac Bypass Key can be programmed and issued. Users presenting a Bypass Key will not be required to scan their finger. Each system comes with 5 Bypass Keys.

CompX eLock

CompX eLock, from CompX Security Products, is the highly engineered electronic lock that's built to interface with solenoid and motor-driven latches. Its uncompromising lock control electronics include a non-volatile memory that stores 89 user codes, 11 supervisor codes, audit trail and can be master coded. With optional LockView™ audit trail software, CompX eLock remembers 750 cabinet access attempts with date, time and user name.



Other features include: LED status indicators (red and green); low battery indicator; audible beeper; 5-minute lockout after multiple invalid attempts; 9-volt battery port for "Jump Start"; High decibel alarm connector; 4AA battery pack mounts remotely or behind unit. Programming is simple with numeric keypad or optional low-cost portable programmer.

Detex Extra-Secure Delayed Egress

Trust Detex to deliver an extra measure of life safety and security



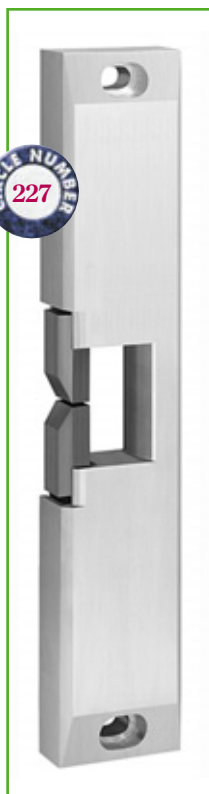
for emergency exit doors. With its new electromagnetic (EM) delayed egress package, Detex now puts together superior security with highly reliable life safety.

Combining the strength of the Value Series or Advantex exit hardware with built-in logic and an electromagnetic lock, Detex EM packages offer extra-secure, two-point locking.

Detex EM Delayed Egress Package Specs: *Proven, trouble-free easy installation *1400 pound latch-bolt holding force, *1500 pound electromagnetic lock holding force *15-second delay, *Approximate 100dB audible alarm operates with 24-volt AC power, *Remote signal capability for system integration and central monitoring, and an *Exceptional manufacturer's warranty.

The HES 9600 Genesis™

In 2000, HES introduced the model 9600 Genesis™, a revolutionary new electric strike concept for releasing rim panic devices. The 9600 Genesis™ is completely surface mounted, requiring no cutting to the frame. The original 9600, however, was designed to be installed on flat metal or wood frame-stops. Unfortunately, the surface of the frame-stop is rarely flat and smooth once the original rim strike is removed. In many cases, the frame material becomes lifted up around the mounting screw holes from the



original strike installation. These raised areas placed pressure on the back plate of the 9600, which often caused the internal moving parts to bind and not operate properly.

HES re-introduced the popular 9600 Genesis™ with a new design that added internal reinforcements to the product to allow it to be installed on any surface. These enhancements include welded stainless steel keeper pins, two additional stainless steel standoff posts and eight fixed "E" rings to provide added support against any unusual pressure points against the back-plate.

KABA PowerLever Offers Access Control

One of a kind in today's marketplace, the stand-alone PowerLever lock by KABA combines pushbutton strength with electronic reliability in a unique, self-powered lock.



Using PowerStar™ technology, the lock generates its own power inside the lock with every turn of the lever, eliminating the need for batteries or wires. Users simply turn the lever once, then enter their PIN code into the telephone-style keypad, and then turn the lever again for entry. An internal generator creates the necessary power to unlock the door when a correct PIN code is entered. Access is simple and easy with the PowerLever lock.

With up to 3000 users per lock, controlling and monitoring access is easy. Audit trail capabilities allow maintenance managers knowledge of who comes and goes from a facility. PowerLever locks can log up to 23,000 records on the audit trail,

making the lock a powerful deterrent to crime.

MKM's Digital Deadbolt Lock

The MKM2500 digital deadbolt lock from MKM USA is a smart keypad unit, which stores up to 20 individual user codes of four to eight digits each and is capable of interfacing with other security systems. The unit fits doors from 1-3/8" thick to 2-1/4" or 2-3/4". Door handing is changeable with an internal switch to left, right, left reverse or right reverse.



Available in bright brass, the 10-button keypad is chrome plated to prevent wear on frequently used buttons. Powered by 4 "AA" batteries, which have about a 1-year lifetime, the unit also contains a computer chip to save memory if the batteries are low or dead. The keypad will time out after five successive invalid codes are entered and resets after one minute.

Marks USA Introduces The I-Que Stand-Alone Cylindrical Electronic Lockset

Marks USA introduces the I-Que stand-alone access control system with its patented "Survivor" cylindrical

lockset. The I-Que is easy to install, has modular design for future upgrades and is capable of expanding the available audit trail and user memory on the door. This unique 16 position keypad, all weather, UL listed, grade one construction unit is backed by a lifetime mechanical and electronics warranty making it an excellent choice for your access control systems.



RCI's 6 Series Electric Strike

RCI's new and versatile "all-in-one" 6 Series Electric Strike combines several requested key features in one electric strike for the first time making installations faster and easier. Standard features include a multi-voltage single solenoid (selectable 12-24 Volts AC and 12 or 24 Volts DC), field reversible mode (fail locked or unlocked), horizontal adjustment, a modular faceplate design and plug-in wire connectors.

A low profile version that's only 1-1/16" deep and optional monitor switch are also available. With the Series 6 strike, it takes only a second (the turn of a dial) to reverse the mode from fail-locked to fail-unlocked, hook up is a breeze with "plug & play" connectors, and the interlocking lip bracket allows for precise horizontal alignment.



SDC's "Break Glass" Emergency Door Release

SDC 490 Emergency Door Release is ideal for immediate unlocking of doors that are equipped with failsafe electric locks and may influence approval of an electric lock system. This "Break Glass" station releases individual doors or all doors in a circuit. A siren is standard for local annunciation. Auxiliary outputs may be used for remote monitoring, remote alarm activation or CCTV activation. The station control is blue to indicate emergency other than fire and has signage indicating its use and operation.



STI Exit Stopper, Offers Host Of New Features

What amounts to an entirely new version of the STI Exit Stopper, that solves the problem of unauthorized exits and entries of fire doors is being offered by Safety Technology International, Inc.

Exit Stopper can be used as both an exit alarm to detect persons leaving through fire exits and now also as an annunciator to let you know



Continued on page 28

PRO-LOK INTRODUCES STAINLESS STEEL PREMIUM PICKS

NEW



PKX-11
Pick Set 11 picks & case
This popular set includes 3 picks with stainless steel handles, 3 standard picks, a double ended slim line pick, broken key extractor and 3 tension wrenches in a soft luggage quality leather snap case.

Our superior quality individual picks are manufactured of tempered stainless steel; deburred and burnished to a soft luster. We use the newest high technology steels and construction methods. Our picks are rust proof, full hard spring stainless steel with smooth rivetless construction making them the strongest most durable picks available.



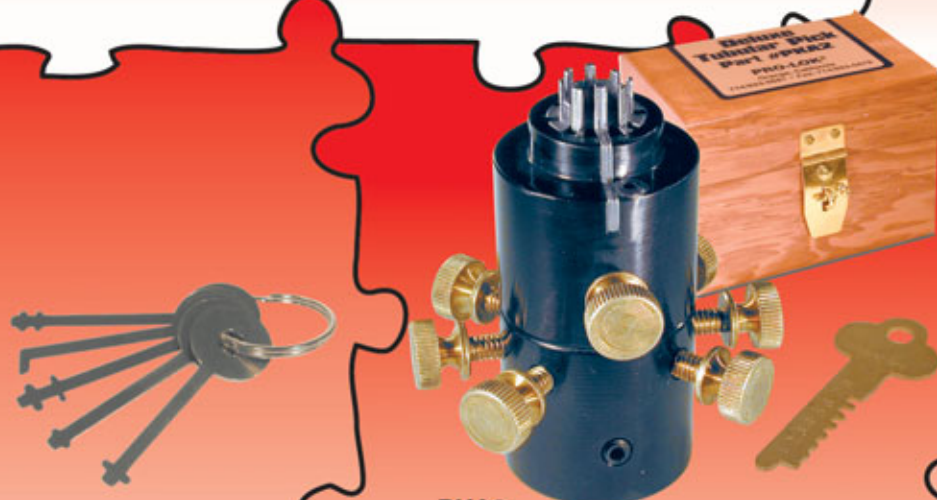
PKX-62
Pick Set 62 picks & case

Open the quality zippered leather case and you'll find the finest lock picks made. The PKX-62 includes an array of hooks, diamonds, balls, rakes and broken key extractors manufactured of tempered stainless steel and features our rivetless stainless steel handles that provide maximum picking comfort, six tension wrenches, and our PKX-WP5 warded pick set.



PKXGUN-E
Pick-Gun-Electric

Our electric pick gun is constructed of aircraft aluminum and hard steel. Unlike other picks, ours is powered by conventional "C" cell batteries, so you never need to worry about replacing expensive battery packs or throwing away the tool when it will no longer take a charge. Includes 4 picks, 3 tension wrenches and 2 adjustment wrenches.



PKA2
Deluxe Ace Pick

Locks can be picked by 2 methods (each pin individually or all at once). Picks left hand, right hand and center. Comes with its own decoder. Manufactured out of aluminum and 12L14 steel, with 1095 carbon spring steel picks. Glossy black anodized finish. Comes in a custom wooden storage box specially designed to protect your tool to last a lifetime. *Similar to the old "Lee Pick".



PKX-A1
7-Pin Ace Pick

The PRO-LOK 7-pin Ace Pick is a precision tool designed to easily open any standard 7-pin center Ace type lock. Set tension insert and rotate back and forth until the cylinder turns. Simple to use. Comes with depth decoder. Features a hard steel body with smooth sliding picking needles, knurled brass handles & vinyl sleeves for those who prefer the feel of rubber handles.

PKX-WP5
Warded Padlock Picks
Use to pick warded padlocks.
5 pc pick set.



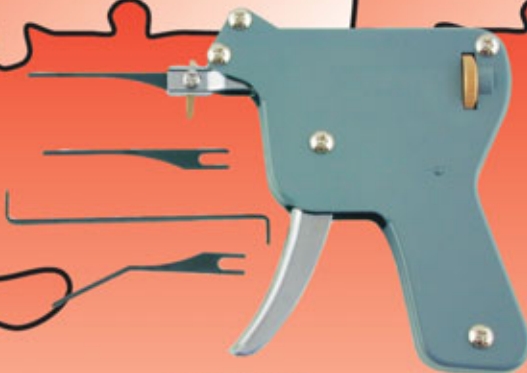
PKX-14
Pick Set 14 picks & case
 Our most popular pick set comes with 9 picks and a broken key extractor, all manufactured of tempered stainless steel and all with rivetless stainless steel handles, 4 tension wrenches in a soft luggage quality leather snap case.



PKX-20
Pick Set 20 picks & case
 This set contains 14 assorted picks (6 with rivetless stainless steel handles), a broken key extractor and 5 tension wrenches in a soft luggage quality zipper leather case.



PKX-32
Pick Set 32 picks & case
 This large set includes a variety of tempered stainless steel hooks, rakes, balls, diamonds, key extractors, and tension wrenches in a soft luggage quality zippered leather case.



PKXGUN-M
Pick-Gun-Manual
 This is the best pick gun available. Used by locksmiths everywhere, the pick gun allows you to pick a wide variety of locks. Comes with three tips and tension wrench. Lifetime warranty.



PKXGUN-RP
Pick-Gun-Replacement Picks
 Replacement picks for PKX-GUN-M or PKX-GUN-E.



PKPS
Padlock Shim Pick
 Shim Picks for padlock opening (20 pcs) 4 sizes, 5 of each type. Designed for use on many padlocks with spring operated shackle latches.



PKX-A3
8-Pin Ace Pick
 The PRO-LOK 8-pin Ace Pick is a precision tool designed to easily open any standard 8-pin center Ace type lock. Set tension insert and rotate back and forth until the cylinder turns. Simple to use. Comes with depth decoder. Features a hard steel body with smooth sliding picking needles, knurled brass handles & vinyl sleeves for those who prefer the feel of rubber handles.

Picks with Handles

- PKX-DB-H**
Double Ball
- PKX-DM-H**
Double Mountain
- PKX-HDL-H**
1/2 Diamond Large
- PKX-HDS-H**
1/2 Diamond Small
- PKX-KE-H**
Key Extractor
- PKX-LC-H**
Large Comb
- PKX-LH-H**
Large Hook
- PKX-MH-H**
Medium Hook
- PKX-SB-H**
Single Ball
- PKX-TR-H**
Small Comb
- PKX-SC-H**
Traditional Rake

Picks without Handles

- PKX-DB-P**
Double Ball
- PKX-DM-P**
Double Mountain
- PKX-HDL-P**
1/2 Diamond Large
- PKX-HDS-P**
1/2 Diamond Small
- PKX-KE-P**
Key Extractor
- PKX-LC-P**
Large Comb
- PKX-LH-P**
Large Hook
- PKX-MH-P**
Medium Hook
- PKX-SB-P**
Single Ball
- PKX-TR-P**
Small Comb
- PKX-SC-P**
Traditional Rake

Tension Wrenches

- PKX-TW-F**
Forked
- PKX-TW-L**
Light
- PKX-TW-M**
Medium
- PKX-TW-R**
Rigid
- PKX-TW-TL**
Long Twist
- PKX-TW-TS**
Short Twist

Double Ended Picks

- PKX-DR-C**
Diamond/Rake
- PKX-HR-C**
Hook/Rake

someone has entered through the protected door. In its annunciator mode, the device announces door entry with sets of 5 beeps. In its exit alarm mode, the Exit Stopper alarm can be set to sound for 30 seconds, 3 minutes or indefinitely (until it is disarmed with a key supplied or there is loss of power). There is also a 15-second delay to allow an authorized key holder to exit the door.

Secura Key Introduces Extreme Keypads

A new line of stand-alone access control Keypads from Secura Key has been designed for extreme conditions. Utilizing the latest developments in piezo switch technology, these products have no moving parts or buttons that can stick or wear out. Meeting tough IP68 standards for water resistance and a variety of MIL standards, the Secura Key stand-alone keypads in solid aluminum housings are virtually indestructible. Up to 200 users can be enrolled right at the keypad with no external controllers or computers.



Secura Key offers a 2-by-6-button narrow version for mullion installations and a 3-by-4-button wall switch model. There is also a recessed-mount flush version of the 2X6 keypad and an illuminated, brass finish version of the 3X4 surface-mount model.

TekTone

Most multi-story buildings now require an area of rescue assistance system to comply with Americans with Disabilities Act (ADA) regulations. TekTone®'s affordable Tek-SAFE™



Area of Rescue Assistance System meets these requirements.

Install IR150SS Remote Call Stations in areas of rescue assistance (in protected stairwells) to provide two-way hands-free communication to a central location (such as the building lobby) from which assistance may be summoned during an emergency. Calls are indicated at the NC150R Master Station by both visual and audible signals.

New Trine Axion Strikes Provide Extraordinary Savings

The 3458 is designed to replace 4-5/8" high strike plates in aluminum frames. Its design requires only a 2-1/16" cut on the frame face and utilizes existing tab holes. Unlike other strikes, the cutout need not be expanded to accommodate a 6-7/8" strike, which involves 70% more cutting, and the drilling of new tab holes.



The 3258 has been created to replace 2-5/8" strike plates in aluminum frames.

Both strikes have only a 1" total backset and ratings of 1200 lbs. Holding force and 500,000 life cycles. Each strike is available in an LC version, allowing 12-24 AC/DC operations plus the additional safeguard of surge and kickback protection.

Yale's Touchcode® 99 Electric Locksets

Yale's Touchcode 99 Electronic Lockset Series is a state-of-the-art electronic keyless entry device utilizing a keypad to allow entrance whenever a valid combination is entered. Up to 99 users can be programmed into the lock, each with a unique combination consisting of up to six digits. Programming of the lock is done at the keypad, where user codes can be entered, changed or deleted. No separate programmer is required.

Available in eight finishes and three lever and knob designs, the Touchcode 99 is a self-contained, battery-operated entry control system with a non-volatile, solid-state memory.



MISCELLANEOUS

ABUS GRANIT

When it positively, absolutely needs to be secure, nothing matches the performance value of the ABUS GRANIT 37/80. Tough? You bet! With its Freon spray-proof, solid steel, Rockwell 65 core-hardened lock body and shackle, double bolted with hardened balls and hardened drive pin, the 37/80 provides over 25,000 pounds of tensile strength. The bad guys won't be pulling this lock apart. The 37/80 integral shackle-guard prevents bolt cutter attack of the tough 17/32" diameter hardened shackle.

What about sophisticated attack (picking)? The ABUS 37/80 features



the ABUS 7 Disc Plus Cylinder with more than 250,000 key differs. Picking this lock is futile. The 37/80 is key retaining for additional security and is available in Key Differed, Keyed Alike and Master Keyed. The ABUS GRANIT, 37/80, the solution when you need Extreme Security protection

CCL Security
Introduces Prestoseal™



CCL Security Products™ Prestoseals are disposable, one-time-use, tamper-detection luggage locks for use at airports at check in time to avoid loss of the luggage lock if Federal Transportation Security Administration (TSA) agents need to hand search luggage following its trip through the electronic screening process.

Prestoseals cannot be removed without destroying its security feature. If the Prestoseal is not present when you receive your luggage, and a Federal TSA seal has not been used to re-seal your luggage. At time travelers are urged to take their luggage to a security person to determine if anything is missing, or worse, to determine if anything has been added to the luggage.

Indiana Cash Drawer
Unveils POShoe®

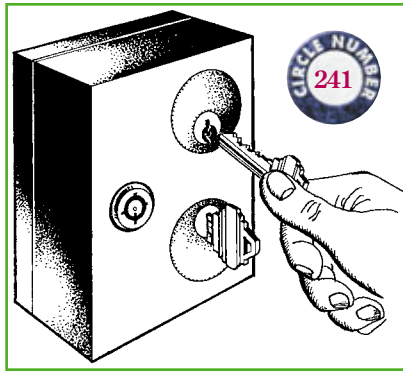


As the popularity of Indiana Cash Drawer POShoe® systems continues to grow, so does the selection of available configurations. The newest POShoe® family member was designed specifically to accommodate the Ithaca POSjet® series of printers. This newest addition provides the same efficient organization of components, reduced cable clutter, and minimized footprint benefits available with all Indiana POShoe® models.

Indiana's engineers have created the perfect setting for utilization of an Indiana Cash Drawer SLD2120POS, any keyboard, any 1-1/4" diameter customer display, any Ithaca POSjet Series printer, and any 9 - 14" monitor.

Major Manufacturing's Key
Trap Key Control

A simple way to help solve key control problems. A master or operating key can be left locked in the key trap block as shown above. A check out key with a serial number



that will identify the user is then used to release the master key. The check out key is left locked in the

key trap. Returning the master key will unlock the check out key and relock the master key in the block.

The key trap is available in one, two, three and four block gangs. The block is locked to a mounting base with a round "Ace" type key. Uses standard 1-1/8" or longer mortise cylinders (not included). Models are available for standard mortise cylinders; Best type cylinders, Medeco and many others.

North American Bancard

Locksmiths can take "charge" of their businesses by accepting credit

ABLOY® PROTEC

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The unique Abloy Protec lock has rotating discs — no springs or pins to wear, jam or freeze.

NEW PATENTED KEY SYSTEM

- Cylinders are made of completely hardened steel
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- No broken keys. Key cuts are angular, not deep.
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cards from customers at the lowest possible rates. Comstar's "Charge Anywhere" wireless pager from North American Bancard allows locksmiths to swipe credit cards at the location of the service call.

There are affordable monthly lease prices as well as great purchase prices. Rates are as low as 1.59% and there are now application fees. A special promotion will waive the wireless activation fee of \$35 when you sign up.

This Blackberry RIM Pager has all of the functionality of a one-way (or

even two-way) pager and a PDA device (Palm Pilot) with calculator, phone book, appointments, etc. Modules included at no extra charge.

Salsbury Industries



Salsbury Industries is the industry leader in manufacturing and distributing commercial and residential mailboxes. New products include custom horizontal mailboxes and parcel lockers, Deluxe Rural Mailboxes, Antique Brass Rural Mailboxes, and Townhouse Mailboxes. Salsbury Industries carries a complete inventory of USPS approved vertical, horizontal and CBU mailboxes. No minimum orders and large inventories equate to fast shipments.



The Viking line is available in nine models from the VS-1M, which is .50 cu ft capacity to the VS-7 mini vault, which is 18.75 cu ft capacity. All models are in stock for immediate delivery.

Visit us at our booth #931 at the 2003 ALOA Show in Las Vegas.

DiMark's PointSafe

The unique PointSafe can be installed on the wall, a shelf or the floor. It has a self-programmable electronic

SAFES & SAFE PRODUCTS

A&B Viking Stainless Steel Safes

A & B Safe Corporation introduces the new addition to the Viking Stainless Steel line, the VS-4 Front Load depository safe. The VS-4 is also available in a rear load version.



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locking mechanism. Five 'AA' batteries power the lock so no electrical connection is required. The safe can be opened with a User Code or a Master Code, allowing it to be used in a variety of environments including hotels. In the event that the lock cannot be opened by code or in the event of lost codes, there is a key override. The safe is small enough to be installed in cupboards or desks. Outside dimensions are approx. 7" high x 11" wide x 8-1/2" deep. Inside capacity is approx. 430 cubic inches. The PointSafe is available through DiMark International of Santa Maria, California.

Fort Knox Security Products

Fort Knox has developed the Vault Door In-Swing. With an inside release mechanism, the inside swing vault door will allow the door to open even if debris has fallen in front of the door. This will allow the vault to be used as a personal shelter in addition to securing your valuables. It is designed for easy installation for a walk-in security room.

The massive 1-1/8", fire protected reinforced steel door can be set in a pre-formed concrete or cement block opening. The rack & pinion, multi-gear drive locking mechanism



incorporates a 5 to 1 reduction to insure smooth, positive and virtually maintenance free lock up.

Gardall

Gardall's new 2-hour insulated record safe has been engineered to



be the best in the industry. With seven sizes we are sure that one will be right for you. Additional features include center bolt down, three-way bolt work, 7/8" profile door, and auto detent on model 1812 and above. We offer all models in traditional Gardall gray as well as our new sandstone look. All Gardall insulated products carry a lifetime replacement warranty if damage occurs due to a fire.

MDS Inc.

MDS Incorporated has an all-new, flexible fiberscope for the Physical Security Industry. Their economical ProVision fiber optic bore scope will easily fit in a 1/4" hole and offers the user a 40-degree field of view in safes as well as door panels. Currently, shaft lengths of 18" and 36" are



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- LOSS PREVENTION PRODUCTS**
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- SECURITY DOOR REPAIR/REPLACEMENT

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The new alarmed Value Series has been designed from the inside out to give you a new level of reliable loss prevention.

The new alarmed Detex Value Series™ gives you the most reliable option yet for durable and attractive loss prevention hardware. The Value Series was engineered from the **VALUE SERIES™** inside out to give you what you've requested—reliable, tough protection, low maintenance and polished good looks.

The Value Series installs fast with precise alignment and quick retrofit to replace other manufacturers' hardware and deliver vandal resistant security.

When the situation calls for reliable, alarmed loss prevention hardware, don't be at a loss for quality. Make your first choice the new Detex Value Series™

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available. This scope comes complete with a magnetic retrieval tip, an adjustable angled mirror tip, an extra bulb and 2 "AA" batteries in a custom carrying/storage case.

The ergonomically designed handle contains the light source and allows one-handed operation of the scope with a push button on/off switch that can never be left on by mistake. You may request literature and pricing information immediately and experience hands-on demonstrations for the first time at the Las Vegas ALOA Convention in July 2003. The Provision scope is the lowest priced flexible scope on today's market and is available for immediate delivery.

Perma-Vault's In-Wall Long Safe

Perma-Vault Safe Company's Model RS-5600-4-M In-Wall Safe provides economical and secure protection in residential or institutional settings for rifles. Shelves are available so that the safe can be used for storage of personal property. Safes come standard with Medeco high security keyways, which can be master keyed, keyed alike, or keyed different with removable core locks. Optional LaGard e-CAM digital electronic locks are also available.



Constructed of heavy gauge steel, the safe's interior dimensions of 56" high x 14-3/8" wide x 4" deep provides ample storage space for three or four rifles. Safes come with a vinyl lining and padded floor as well as an elastic band, which holds the barrel in place. The unit also has a self-installed shelf, which can be placed above the rifles for further storage. The safe, which has a recessed door with 3-point locking and hidden hinges for increased security, is designed to fit between standard wall studs in the home, a guardhouse, or other location.

TOOLS & ACCESSORIES

A1 Pak-A-Punch with Free Key Blanks

A1 Security Manufacturing Corp. has announced a new promotion featuring its PAK-A-PUNCH hand-help code cutter & FREE High Security Automotive Key Blanks.



Purchasers of A1's PAK-A-PUNCH Valu-Set Promotion, Model # PAK-MS10 will receive A1's PAK-A-PUNCH with accessories for punching GM 6 cut & double-sided; Ford 10-cut, 8-cut and 5-cut; Chrysler 8-cut & 7-cut (series J/L). In addition, 15 single sided VATS keys, 1 Ford PATS key (S72) and 1 Honda Transponder (HD106) will be included.

This entire set, valued at \$966.90 (if purchased individually) is available for \$625.00 (suggested dealer). The savings of over \$340.00 is available until August 15, 2003.

Adrian Steel

You'll find the key to unlocking simplicity with the Adrian Steel Locksmith Package. Adrian's locksmith package has an abundance of special features. There are various compartments for your small tool needs, and large drawers for those that require additional space. They've also



included lockable areas, to better protect your investments.

The locksmith package also includes a catalog file for organizing papers, a workbench with stool, a place for key blanks, and even a key machine base. Complete your customer service needs today by becoming the most organized locksmith in your area. Get your Adrian Steel Locksmith package today.

Bianchi

The Bianchi 303 high security duplicator has been redesigned with a number of attractive new features. The Bianchi 303 duplicates high security laser and dimple type keys. The robust construction and innovative design results in an extremely durable, precise and easy to use key cutting machine. The 303 is the tank of its class at 51 lbs. and the heavy one-piece casting reduces vibration resulting in less noise, longer cutter life, and better-cut consistency.

In addition to the concentric electromechanical calibration (capable of precise adjustment in all directions), micro-switch activated cutter, large protective shield, and



code cutting capabilities, several improvements have been made. A few of these include semiautomatic cutting, hand rest for better stabilization during cutting, illuminated directional arrows added to ease calibration, longer lasting and brighter LED style light along with a restyled cover and tool compartment.

Bianchi USA, the North American division of Bianchi 1770, opened in January of 2003. The Bianchi family has produced quality security products in northern Italy since 1770 and has been a leader in key machine design, innovation and quality for decades.

HPC

Get more out of your HPC 1200CMB Blitz™ with the HPC Tubular Key Adapter. Maybe you've never had enough tubular key business to justify purchasing an HPC Tubular Key Machine or maybe you just don't have room in your service vehicle for another machine. Whatever your reason was, you'll never have to turn down that business again. HPC's Tubular Key Adapter quickly converts your existing Blitz™ or 1200CM into an accurate, easy to use tubular key cutting machine.



Simply put on the new cutter and sleeve, slip in the code card, place the adapter with blank into the jaws and you're ready to cut tubular keys. Ask for the TKA-CMB for your Blitz or the new TKA-Shark for your Blue SHARK.



LAB Introduces a Full Product Line for I.C. Users

LAB introduces a full product range for your entire interchangeable core needs. Lab now offers Original Equipment Manufacturer / Original Replacement I.C. pins and Universal I.C. pins. This range of products covers brass spool pins, top pins, and 3 types of bottom pins in 2 different raw

materials. The bottom pins are available in Universal Brass Radius Nose Design, Original I.C. Nickel Silver Radius/Flat Nose Design, and Original Equipment Manufacturer Nickel Silver Flat Nose Design (BEST style). This product covers any A2, A3, and A4 system requirements that the locksmith will encounter in the field.

LockTools.com

The Wild Jig 2 (WJ-2), our new universal mortise installation jig, is the latest addition in the LockTools series of high quality, fast, and accurate set-up installation tools. Like the original Wild Jig, the tool provides worry free lock installation and ease of use. There are no complicated clamp systems, spacing plates or multiple set-up requirements. A patented grip-lip centering system assures a limited set up time of less than a minute. The jig plate of your choice is provided, while additional plates for other major mortise lock brands are also available.



A quick-change interchangeable plate mechanism also allows for fast, efficient changeover to different mortise lock installations. Quality steel construction and demanding quality standards assures precision, accuracy and durability, all backed by a warranty.

Numberall Stamp & Tool Co.

Numberall Stamp & Tool Co., Inc is featuring a line of specialized key



marking equipment. This equipment is ideal for hotel and motel industries, Universities, school districts and housing authorities as well as locksmiths. It is useful when a large number of keys must be stamped with identifying numbers and letters.

The equipment ranges from the economical Model 23 Type holder to the Model 137 motorized bench-marking press. Included is the Model 40B (shown) which features a large easy to read dial and a carriage table, which automatically advances after each impression.

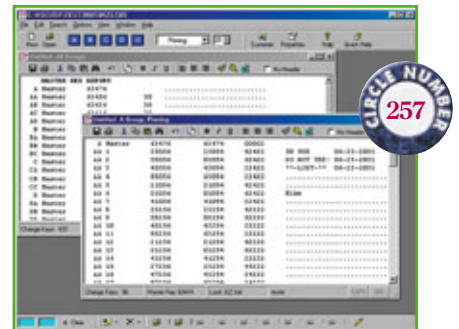
Custom made key nests which fit into the presses simplifies the marking operation even more. Simply drop the key into the nest and make the impression. Every key is marked in exactly the same place!



SOFTWARE

KeySoft MasterkeyPro® 2003 (Master Keying Software)

Software designed to give you peace of mind. Whether you need to recreate an existing system or create one from scratch. Whether you're a professional or a novice. MasterkeyPro is by far the easiest way to create and maintain your Master-Key systems, and has been for over twelve years. Each system you create can be customized, by manipulating things like the Pin-Size, Safety-Factor, Step-Increment, Key-Biting-Array, Rotation-Order, etc. Or just click one of our Preset buttons, to automatically give you a great system every time.



Plus all the reports you'll need to make your job as-easy-as possible, from Pinning charts, Master Key reports, Cross-Keying, Pin Count and much more. Reports that let you print just what you want or need, by

allowing you to Cut and Paste and/or type additional information directly into your reports.



The Desktop Dispatcher by Mark Fleming Enterprises

The Desktop Dispatcher is proud to announce the addition of three new features that will save your shop time. Now users can email the calls right to your cell phone or pager. This feature works great with Nextel phones. Nextel customers can even send replies back to the office without tying up the phone lines.

Ever get lost on the way to a call? Now you can get unlimited free maps to your customers from MapQuest.com. The Desktop Dispatcher accesses the web and then plugs the address for you so the next window that opens is a map to that address. And finally, Quick Books Pro users can use the information that they have already entered into The Desktop Dispatcher to build invoices in Quick Books Pro without having to retype the invoice.

Videx Announces Safe Locks with CyberLock® Technology

Safe Locks that Report Who, What, Where, and When!

CyberLock® technology has been incorporated into safe locks, bringing a full-functioning access control



system and most importantly, an audit trail to safes. The new safe lock system allows management to restrict each authorized user's access to pre-specified dates and times, and provides a record of entries and denied entries. A manager can preset keys to expire and lost keys can be quickly disabled.

Features of the system include delayed or multiple key access, an audit trail of activity that takes place at the lock and the key, and the ability to program a CyberKey to automatically expire within minutes, hours, days, months, even shift-by-shift, depending on the specific task that has been assigned to the user.

KEYS & KEY ACCESSORIES

Ilco's Four New Key Lines

Make a point to stop by the Ilco booth and check out the newest keys. Continuing their efforts to increase both sales and profit potential for the locksmith, Ilco has introduced four new key lines:



TeamKeys® durably painted with the officially licensed logos of all NFL, MLB, NBA and NHL teams.

Collegiate Personali-keys feature the officially licensed logos of many universities.

Automotive Personali-keys combine colorful designs plus a translucent plastic key head.

MagnetKeys are an innovative way to keep keys handy where you need them.

Kaba Ilco's MagnetKeys®

Kaba Ilco Corp. has brought yet another new dimension to keys with the introduction of their patented MagnetKeys. Incorporating a magnet in the plastic head of these keys permits the keys to be stuck on any ferrous metal product. No more rusty key storage boxes, MagnetKeys stick to grills, toolboxes, storage sheds, refrigerators and more.

Ilco MagnetKeys are available in KW1 (Kwikset), M1 (Master), SC1 (Schlage) and WR3 (Weiser)



keyways. The translucent plastic heads are available in aqua, black, ruby, teal and violet.

For maximum stocking flexibility, MagnetKeys are offered in both an assortment and open stock. The assortment features a self-standing metal display and forty keys (4 keyways, 2 each of 5 colors). Open stock is available by keyway in bags of 5 keys (one of each color).

Key-Bak Spinner

The spinner from Key-Bak maintains the classic circular shape of other key holders in the line, while eliminating any chain or cable abrasions. It can be extended at any angle, a full 360-degree selection, with



virtually no wear on the chain or cable. The Spinner can be completely removed from its base and used as a simple key holder, allowing it to be used for automotive keys or in any situation where keys need to be passed from one individual to another.

KeyLights

KeyLights™ are key blanks with powerful LED lights built into the key handle. KeyLights™ make it convenient to simultaneously operate a light and a key with only one hand! It's like having a mini flashlight in each



key to light up your path. KeyLights™ are ultra thin so they do not bulk up your key ring. They are available in 4 translucent colors KW1 and SC1 keyways. They include SONY Lithium batteries. KeyLights™ are patent pending. Visit ALOA Booth# 535.

Klassy Keys

Earlier this year, importer and distributor, Klassy Keys unveiled a new collection of custom color keys known as the “Keys of Freedom.” This collection touches the heart of every American and honors our men and women of the United States Armed Forces. In addition, Klassy Keys has pledged a portion of all proceeds from the “Keys of Freedom, American Fighting Forces Collection” to aid the POW/MIA foundation in their unending quest to bring our lost fighting men and women home.



President and CEO, Bob DeJonge having served in the United States Army 101st and 82nd Airborne Divisions during the Vietnam Era, aided by Dave Petit a United States Navy Veteran, decided to create a special collection of popular key blanks to honor our Armed Forces. With the help of Chuck Schantag of the POW/MIA foundation the “Keys of Freedom, American Fighting Forces Collection” was born.

Klinky Manufacturing Co.

Imagine everything customers ask for in a colorful key blank, plus a



surprisingly comfortable silky-smooth grip. Klinky, the stylish new key blank exclusive to The Klinky Manufacturing Company, combines beauty and elegance with pleasure and delight. The soothing touch of a Klinky fulfills your customer’s every desire and exceeds their every expectation, all for about the same price as an ordinary colorful key. Now, more customers have a reason to pay extra for a colorful key, those who enjoy style, and those who enjoy comfort.

The simple elegance of a Klinky set on an attractive Klinky display will enhance your business image, and sales. Ask your distributor about how to obtain a Klinky Collection for your store.

Lucky Line Key Saver

Lots of people lock their keys inside their car – but few would lock their credit cards inside. That’s the concept behind the Key Saver from Lucky Line. Designed to fit with credit cards, it is a practical and secure way to carry a spare key. For commercial display, the Lucky Line Key Saver is available on an attractive rack mount card.



New Lund Key Cabinet

A new Lund Key Cabinet has a locking inner compartment and a



locking exterior door as well. Designed to safeguard keys to private records, valuable papers, medical offices, engineering designs, etc. It leaves the keys in the outer compartment accessible. The locks are keyed differently. The locking inner compartment has 50 hooks. The hinged panel has 100 hooks. The cabinet is made of 18-gauge steel, with gray baked-on enamel finish. The model shown is 17-1/2” wide x 25” high x 2-3/4” deep. Other sizes available.

Lund offers more than 70 styles of key cabinets and panels all complete with systems for controlling keys. A capacity from 10 hooks up to 3312 hooks.

Monarch Coin & Security’s Key Kop

Only authorized personnel with access to the proper key can remove keys from Key Kop, the tamper-evident key ring from Monarch Coin & Security Inc. Available with a tubular lock, a Duo lock or a Medeco lock, the Key Kop has flexible cable in four lengths, 6”, 8”, 12” and 18” (measured unlocked and extended) or in a stainless steel shackle in five sizes, 1-1/2” loop, 2-1/2” ring, 3” loop, 4” rings and 5” loop. There are no expensive seals to break and no rings to weld and cut.



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by
Michael Hyde



1. The 1999 Infiniti I30 is the brother-sister to the 1999 Nissan Maxima. This was the first year for the I30 and the Maxima with a transponder system. This years models were unique. They are the only ones in the U.S. that have a transponder system with the now defunct 8-cut keyway (X123 style). The factory keys can be cloned using a JET ETD-1 transponder machine. I have an Ilco RW2 but it does not clone this key correctly. Maybe it needs an update or something.

— 1999 —

INFINITI.
I30

Part 1

The introduction of the I30 and the Maxima transponder system.



2. Opening this car is a piece of cake. I used a tool called the "Caddy Killer" or "Under the Window" tool. Gently insert your wedge and then insert the tool in at the most forward point on the door.



3. Wiggle the tool into position and flip over the inside locking button to unlock.



4. Make sure when you use your opening tool that you have a plastic or rubber tip on the tool. This way you won't scratch the material on the door panel as you make your way down to the inside locking button.



5. Before servicing the ignition lock you should always disconnect the negative side of the battery.



6. The ignition lock cylinder plug as with almost all Nissans and Infiniti's is held into the lock housing with solid roll pins. The steering column shroud is a plastic 2-piece style.



8. You will need to remove all the screws on the bottom side of the shroud.



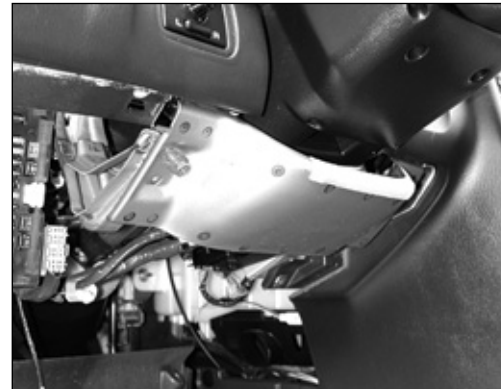
10. Once the trim screws are removed you can then unsnap the trim panel.



7. The ignition has the transponder induction coil (antenna ring) that encircles it.



9. Since a couple of the shroud screws are out of reach it will be necessary to remove the lower plastic dash trim panel. Two trim screws hold it in.



11. The lower metal panel must also be removed. There are two 10mm bolts to remove.

■ CL800 Series



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Security.
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Aesthetics.

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12. The upper section of the plastic shroud will unsnap after the screws are removed.



13. The lower section of the shroud can be removed.



14. The ignition lock assembly is secured with 2 shear-head bolts. These are easy to remove by means of a couple different methods. One of the most common methods is to Dremel a groove in the head of the bolts and unscrews them. Another is to use a scratch Awl and by tapping on the outside edge of the bolt counter-clockwise. It will also loosen the bolt.



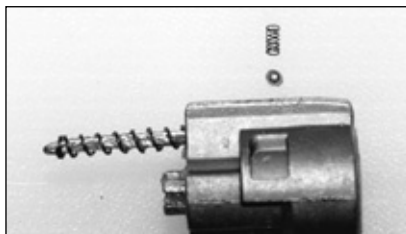
15. There are 2 screws that hold the electrical connector to the rear of the lock housing.



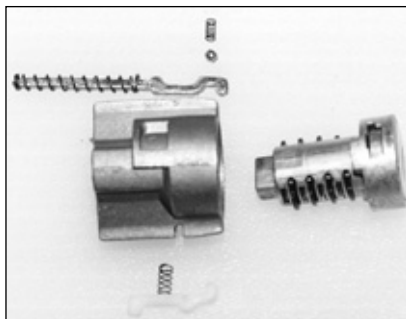
16. The ignition lock face cap is secured with 2 opposing solid roll pins that must be removed to release the ignition lock cylinder plug.



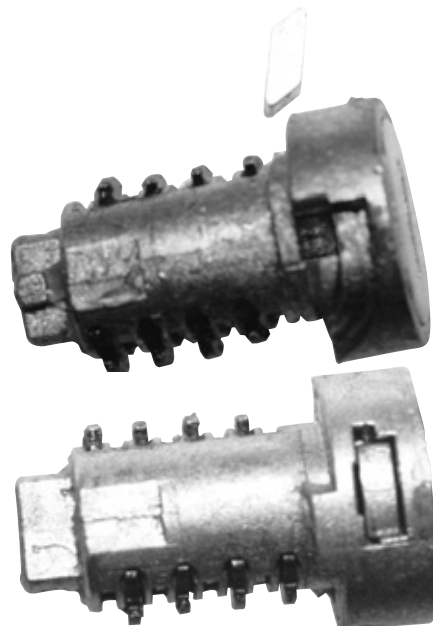
17. Drill into the lock housing approx 1/4" directly next to the roll pin with a 7/16" or smaller drill bit. Make sure you are slightly drilling right up against the roll pin. This will ensure the roll pin coming out easily.



18. Once the roll pins are removed, the face cap for the housing will slide off. When removing the cylinder itself there is a small spring that can easily be lost forever. This spring is found on all Nissan style locks of this type. It wants to leap out the locks as soon as it gets the chance.



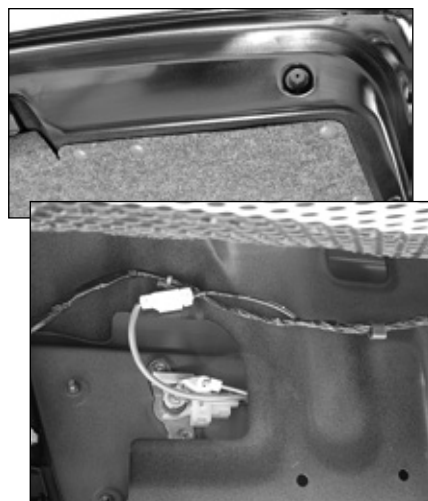
19. Here are the contents of the ignition cylinder, the cylinder plug and buzzer lever with lever spring and ball bearing with matching "fly away" spring. There is also a white plastic actuator on the bottom of the lock cylinder.



20. There are 2 small metal actuators on each side of the cylinder plug itself. These small parts usually fall out during the re-keying of the cylinder plug.



21. The trunk lock cylinder is easy to remove. It is not necessary to remove the taillight assembly.



22. The inside of the trunk lid has a cloth/plastic material liner that is secured by plastic push-in style clips. Remove the clips and the trunk lock can easily be accessed.



23. There are two 10mm bolts that secure the trunk lock cylinder.



24. The trunk lock cylinder removed from the car.



25. The tailpiece is held on with a "C" clip.



26. The rear of the lock cylinder has an electronic connector on the backside. You can leave it on or remove it if it gets in your way.



27. The face cap is easily removed and must be re-used.



28. The trunk lock disassembled.



29. The trunk lock cylinder has all eight tumblers in it.



Glove Box Lock

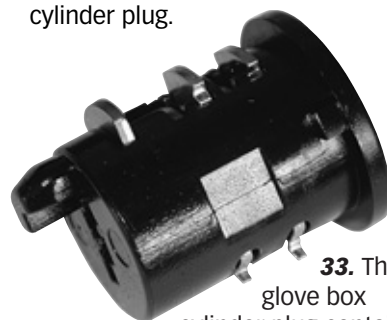
30. The glove box door has a locking cylinder in it.



31. The lock handle assembly can be easily removed by taking out the 2 screws that secure it to the glove box door.



32. There is a small opening to reach in with a pick and push down the retaining tumbler to slide out the cylinder plug.

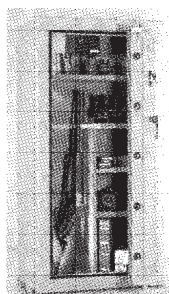


33. The glove box cylinder plug contains 4 combination tumblers in positions 5 through 8.

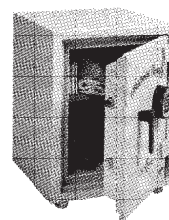
In the next installment we conclude with the door lock and programming procedures.



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Kirk Key

Interlocks

by Christopher M. Smith

In 1932, Kirk® Key Interlock Company, began manufacturing key interlocks in Greensburg, Pennsylvania. In the seventy years since Kirk Key's founding, Kirk Key Interlocks have been installed on electrical equipment and machinery in every country in the world. Kirk Key started life as part of Railway & Industrial Engineering Company (R&IE), which later became ITE, then Gould, which became Gould Brown Boveri, and finally ABB. In December of 1999, Kirk Key Interlock Company became completely independent of ABB and is now located in Massillon, Ohio. Key interlocks and interlock systems are the only products manufactured by Kirk® Key Interlock Company.

Developed during the 1920's, key interlocking was first utilized on circuit breakers and switches to reduce hazards caused by improper switching operations. As electrical safety standards evolved during the 20th century, the application of key interlocks has greatly expanded. Today, in addition to electrical power equipment, Kirk Key Interlocks are utilized on machinery and many other industrial applications to protect personnel and equipment.

Every professional locksmith will encounter a key interlock system at some time during his/her career.

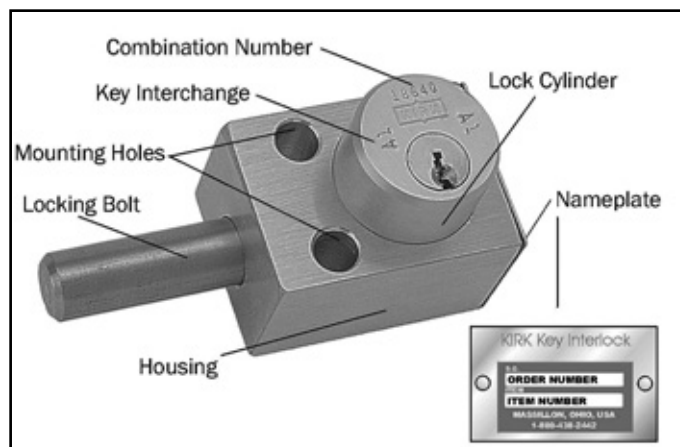
Therefore, it is important that the locksmith recognize that a key interlock, which their customer is probably in a hurry to have serviced or replaced, is part of a larger "scheme" of interlocks and must be considered from a unique perspective. Each interlocking scheme is designed with a specific number of keys, and the introduction of just one additional key, by a well-meaning locksmith, can jeopardize equipment and the safety of personnel. It is strongly recommended that when faced with the job of servicing or rekeying a key interlock, the locksmith should forward the interlock to the manufacturer thereof, along with the name and location of his customer or ultimate user of the interlock, as an agent for the ultimate user.

The purpose of this article is to; 1) help identify key interlocks in the field; 2) promote awareness of how key interlock systems are designed to operate; 3) explain the application and unique engineering philosophy of Kirk Key interlock systems; 4) illustrate the development of the functional requirements from which key interlock specifications are prepared and; 5) demonstrate several key interlock schemes.

How do you identify a Kirk Key Interlock?

Each interlock has a stainless steel nameplate stating that the interlock is made by Kirk®. (See figure 1.) As stated above, Kirk Interlocks were once part of Railway & Industrial Engineering Co (R&IE),

Continued on page 44



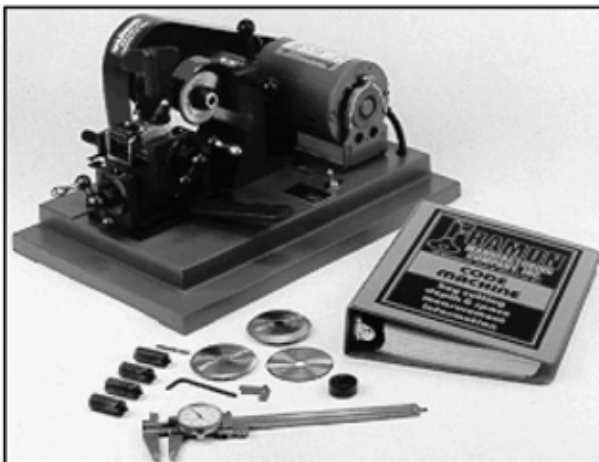
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Key Interlocks

The degree of safety achieved in key interlock systems depends almost entirely upon the accuracy and quality of the locks and keys employed, and the judicious choice of specific locks and keys used in an interlock system. Key interlocks must, therefore, meet certain basic requirements distinct from the normal commercial type of lock.

The basic requirements of locks for key interlocks include:

1. All keys and locks of each combination must be interchangeable, i.e., any key will operate all locks having the same combination, regardless of the year or date of shipment of the locks and keys.
2. No key will operate any lock other than those having the same combination as the key.
3. The key should be removable only in a predetermined position (typically when the locking bolt is extended) depending upon the requirement of the equipment to which the interlock is mounted and the design of the overall interlock system.

Interlock System Coordination and Ultimate User Records

Kirk® Key Interlock Company maintains complete records of all interlocks furnished to each ultimate user, as well as their location and general application. The records date back to the beginning of the company. Because each interlock application is unique, individual treatment is necessary in order to provide the correct application in each specific interlock system.

The accuracy and completeness of the interlock records are major factors in a properly coordinated interlock system. These records

guarantee that only correctly combined locks are used. The records are intangible hidden values furnished by Kirk Key that enable existing interlock systems to be properly serviced, expanded, or modified at any time, without danger of subsequent incorrect operations.

Construction of a Keyed Interlock

In order to understand keyed interlock systems, it is necessary to fully appreciate how a keyed interlock operates and how it works in conjunction with the equipment on which it is mounted.

A typical keyed interlock is comprised of a lock cylinder, a support housing, a moveable 5/8" diameter locking bolt, and a cam arranged to move the locking bolt in response operation of the correct key. Various styles of interlock housings are available and each style is designed to mount in a different way, depending upon the equipment to which the interlock is to be installed.

One of the most important features of a keyed interlock is that the key cannot be removed from all positions of the locking bolt. A conventional lockset may allow free removal of the key regardless of the position of the locking bolt. The function of an interlock, however, dictates that the key be held in the lock cylinder unless the locking bolt is in a predetermined position. Possession of the key ensures that the associated device has been locked in a known, safe position.

The locks used in Kirk Key Interlock Systems are special 7-pin tumbler locks. The lock cylinder is 1-23/64" in diameter and it extends 11/16" beyond the interlock body. The key has an ample finger grip

with a distinctive square pattern known as an "A" bow.

The lock number is stamped on the face of the lock and also on the key. It has the serial number applying to the lock combination and is recorded at Kirk® Key Interlock Company. As discussed previously, the lock number records are maintained as a service for the ultimate user of the interlocks to guarantee that no improper interlock locks will be included in the ultimate user's installation.

Each lock is capable of operation by only one key. An exception to this is a master lock (also called an apartment lock). Such a lock may be operated by two or more keys, which are not themselves interchangeable.

How an Individual Interlock Typically Works

Figure 2, illustrates how an individual interlock typically works in conjunction with the equipment to which it is installed. In view (a), the controlled device (such as a switch) cannot move from its normal position (whether open or closed) because of the position of the lock bolt. When the key is turned to withdraw the lock bolt (view b), the key becomes "trapped" and the controlled device can then be moved. Once the controlled device is moved, the key remains held because the lock bolt can no longer be physically extended so as to free the key (view c).

The typical controlled device has two operating positions. If the intent is to lock the controlled device in either position, the arrangement of figure 2(a), may instead provide a recess on two opposite sides of the rotating member. In this manner, the lock bolt can be extended and the key released with the controlled device in

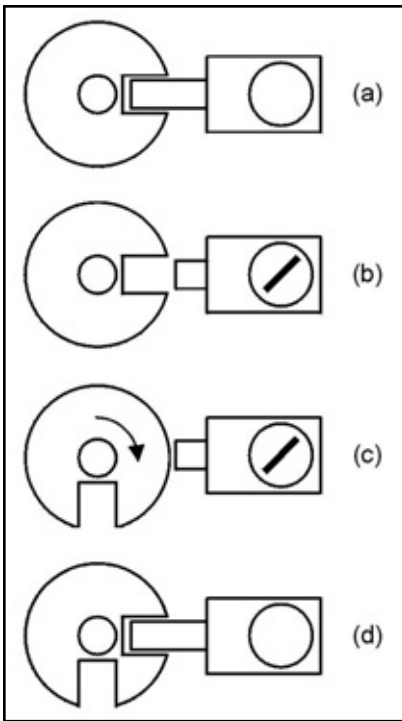


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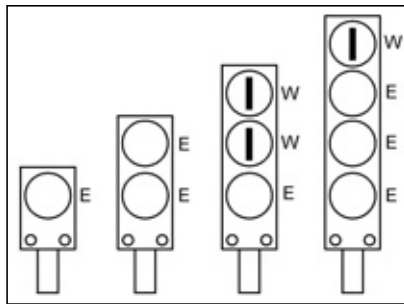
2. Operating principle of a simple key interlock mechanism.

either of two positions. Such an arrangement is described as L-O-C - locked open or closed (figure 2(d)).

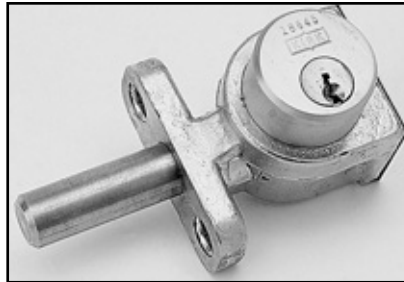
Or, if required, a separate interlock can be utilized for each position of the controlled device allowing a separate key to be released once the controlled device is locked open (described as L-O). Imagine a fuse compartment door that requires a key that must be obtained once the associated switch has been locked open. The first lock on the switch is keyed to match the upstream breaker and would be of the L-C type. The second interlock is keyed to match the fuse compartment door and would be of the L-O type. The associated breaker would be locked open, freeing the key to unlock the switch. Once the switch has been opened and locked in that position with the second interlock, its key is released allowing the fuse compartment door to be opened.

In most cases a circuit breaker must be locked only in the open position (L-O), to prevent reclosing. No need exists to lock it closed. That interlock is of the L-O type, freeing the key for use elsewhere in the interlock system only when the circuit breaker is locked open.

To summarize the description of the operating position of the device



3. Key removable positions.



5. Single Cylinder Interlock Type B (for base mounted.)

on which the interlock is mounted:

(a) Lock Open (L-O). This symbol on an interlock diagram indicates that the key is removable when the device (a circuit breaker, switch, valve, etc.) is locked in the open position.

(b) Lock Closed (L-C). This symbol indicates that the key is removable when the device is locked in the closed position.

(c) Locked Open or Closed (L-O-C). This symbol indicates the key is removable when the device is locked in either the open or closed position.

Key Removable Positions

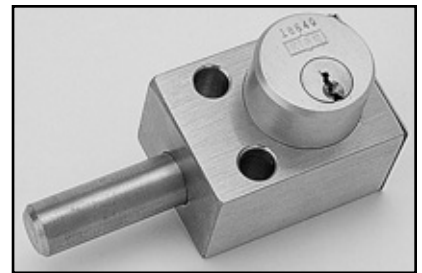
All keyed interlocks must be described in terms of the locking bolt's relation to the key. A given key is removable from its lock only when the lock bolt is in one position - which is indicated on the interlock system plan. All keys must be in their respective locks in order to operate the locking bolt. *Figure 3*, shows various interlocks and the key removable designations as "E" and "W".

E - Lock Bolt Extended, Key Removable (also Bolt Withdrawn, Key Held)

W - Lock Bolt Withdrawn, Key Removable (also, Bolt Extended, Key Held)

Bolt Travel and Projection

The normal length of travel for



4. Single Cylinder Interlock Type F (flat lock.)



6. Single Cylinder Interlock Type FN (flat narrow.)

the lock bolt from the withdrawn position to the extended position is 3/4". The projection of the lock bolt when in the withdrawn position is normally 0", 1/4", 3/8", 1/2", 5/8", 3/4", 1", 2", and 3", but any length is possible. Note that interlocks are referred to by the length of the locking bolt in the withdrawn position.

Lock Numbering

The cylinder combination is always stamped on the lock cylinder and key. Kirk Key combinations today are five digits that are sometimes preceded by a letter or two and can be followed by up to three letters. Lock cylinder combinations from the 1960's or older Kirk Interlocks may contain just four digits (denoting a six pin tumbler). Many of the lock cylinders supplied by Kirk Key up to the late 1970's will have a cylinder combination that starts with the letters "RE". Regardless of the cylinder combination, look for the Kirk® name on the stainless steel nameplate to verify that the lock is a Kirk Key Interlock.

Each interlock in an interlocking system has a key (or keys) that interchange with other interlocks. When designing an interlock system, the various "key interchanges" are specified by designations such as A1, B1, B2, etcetera. All A1 locks in a given interlock system have the same combination, all A2 locks have the same combination, and so on. The

key interchange designation may be stamped on the lock cylinder and the key, if required at the time of order placement. (See *Figure 1* for an example of a stamped key interchange on an interlock cylinder).

Unless directed to coordinate with existing combinations, the Kirk Key Interlock Company will assign lock numbers and key sections to each key interchange upon receipt of interlock orders. It is of utmost importance that the name and location of the ultimate user is supplied with each interlock order so that the proper lock numbers can be assigned. This ensures that duplicate lock cylinders are not introduced to a facility.

Typical Single Cylinder Interlocks

The most common Kirk Key Interlock is the Type F (flat lock) shown in *figure 4*. The Type B (base mounted) see *figure 5*, and Type FN (flat narrow) shown in *figure 6*. The style of interlock housing is determined by the mounting provisions on the equipment that is to be interlocked. Visit their

website (www.kirkkey.com) for data sheets and dimensions pertaining to most of the interlocks manufactured by Kirk Key Interlock Company.

Multiple Cylinder Interlocks

In addition to the common practice of trapping the key in a single lock until the locking bolt has been either extended (or sometimes withdrawn), interlock systems may also utilize multiple lock cylinders to control a single locking bolt. Kirk Key Interlock Company offers most styles of interlocks in multiple cylinder arrangements if required by the interlocking scheme design. On multiple cylinder interlocks, the locking bolt will not move until all keys have been inserted. This accommodates a situation in which several devices must be locked safe before another device (or devices) can be allowed to open or operate.

Kirk Key multiple cylinder interlocks are also utilized to allow any number of secondary keys to be released once any number of primary keys have been inserted and turned. This allows a continuation of one or more

sequences after extending or withdrawing the locking bolt on a multiple cylinder interlock. Multi-lock units can be made with any number of locks operating together. The only size limitation is that imposed by the dimensions of the equipment on which the interlock is to be installed.

Transfer Blocks

A transfer block is a multiple cylinder lock block that does not utilize a locking bolt to connect it to any controlled equipment. (See *figure 7*.) Its function is to make one or more keys available only when one or more other keys have been inserted, turned, and therefore become trapped. The use of transfer blocks is beneficial when multiple scenarios are required in an interlocking scheme. For example, a large line-up of switchgear may have many rear access doors. But those doors cannot be allowed to open until various circuit breakers are locked open. A transfer block can be utilized to allow certain doors to be unlocked only after the appropriate associated circuit breakers are locked open.



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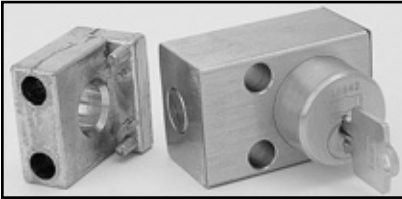
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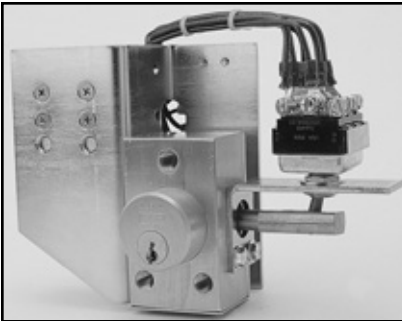
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7. Three-cylinder transfer block - keyed E-W-W.



8. Door interlock and latch block.



9. Solenoid Key Release Unit type SKRU (unhoused).

Door Interlocks

A typical Kirk Key door interlock is designed to work in conjunction with a latch block. (See figure 8.) The door interlock is designed so that the key is trapped in the main body until the door has been fully closed against the latch block.

Imagine an interlock system that contains a circuit breaker and an associated key interlocked rear access door. The circuit breaker is normally closed and the key is held in the breaker interlock. The circuit breaker must be locked open, thereby freeing the key to allow the access door to be unlocked and opened. As long as the access door is open, the key is held in the access door interlock and cannot be returned to the breaker for reclosing.

Another common door interlock contains two lock cylinders. The first cylinder requires a key from an upstream device (such as a circuit breaker) in order to unlock the door interlock. The second lock cylinder holds a key that is trapped until the door is unlocked and opened via the key from the circuit breaker. Once the door is opened, the second key is released and can be put in the pocket



10. Solenoid Key Release Unit type SKRU (housed).



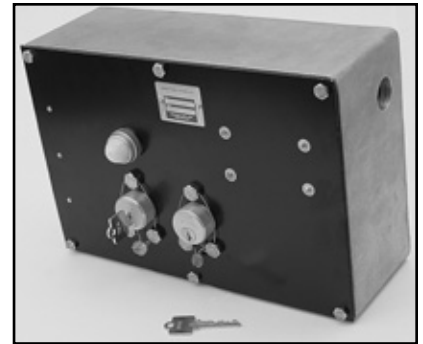
11. Solenoid Key Release Unit type SKPM.

of the maintenance person, ensuring that the door cannot be closed and locked as long as he holds the second key. Upon completion of his tasks, the second key is returned to the door interlock allowing the door to be closed and locked which frees the first key allowing it to be returned to the circuit breaker for reclosing. This arrangement eliminates any possibility of the equipment being operated with the authorized operator inside the enclosure or absent from the area.

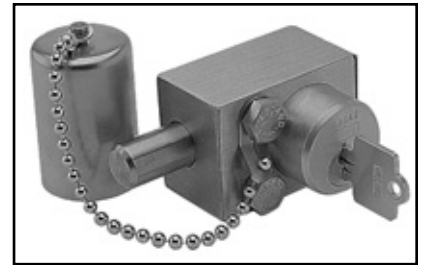
Solenoid Key Release Units

Generally used in conjunction with other keyed interlocks, a Solenoid Key Release Unit (Kirk SKRU or SKPM) see figure 9, is designed so that a key (or more than one key) is trapped in the interlock and cannot be released until the unit receives an external electric signal to the solenoid. (See figure 10.) The key absolutely will not turn until the solenoid is energized. (See figure 11.) The solenoid key release unit also contains auxiliary switches for status indication or control circuitry.

Though utilized in many ways, a solenoid key release unit can prevent entrance to a breaker vault, operation of a non load-break switch, or any number of hazardous



12. Time Delay Key Release Unit type TDKRU.



13. A cylinder dust cover.

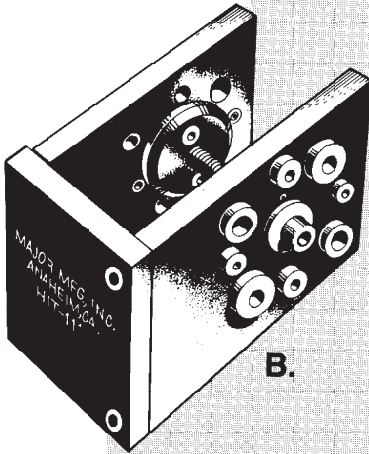
situations. For example, the solenoid of the key release unit is energized when the circuit breaker is open so as to permit removal of the key. Removal of the key operates the auxiliary switch in the key release unit and disables the closing circuit of the circuit breaker. The key can then be used in combination with other keyed interlocks to enter a breaker vault or operate a non load-break disconnect switch.

Indicating lights, showing that the solenoid is energized, and push buttons, to allow the solenoid to be energized, are common accessories for solenoid key release units. Solenoid key release units are available mounted in a housing for protection from the elements depending upon the type of setting in which they are installed; however, they are most often installed by mounting them behind a panel with the key cylinder (and perhaps a push button or indicating light) protruding through the panel.

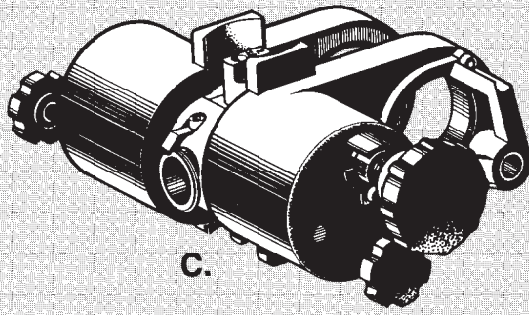
Time Delay Key Release Units

Also used in conjunction with other keyed interlocks, the Time Delay Key Release Unit (Kirk TDKRU) see figure 12, is designed to introduce a minimum time delay between two operations in an operating sequence. An initiating key is brought to the time delay unit and

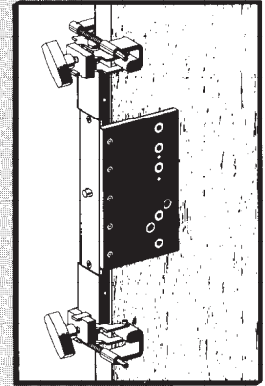
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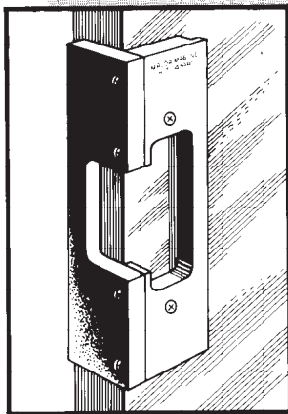
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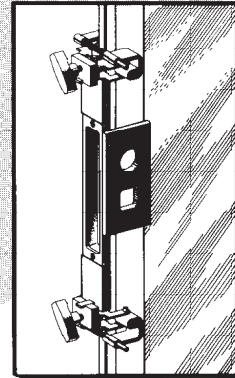
C.



D.



A.



E.

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turned to start the time delay relay. After a given delay, the solenoid is energized (a signal light shows the operator that the solenoid has been energized), permitting a previously held key to be turned and withdrawn for further operations. The initiating key is held captive until the second key is returned to the unit.

Like the Solenoid Key Release Unit described above, the Time Delay Key Release Unit incorporates an auxiliary switch for status indication or control circuitry. Should an operator accidentally remove the initiating key during the time delay period, the timing device instantly returns to its original position.

The Time Delay Key Release Unit has many applications. For example, it can be utilized to prevent worker access to an enclosure around rotating equipment (or a fan) until the machinery has had time to come to a complete stop after shutdown or to allow a capacitor bank to fully discharge before releasing a key to permit access.

Interlock Accessories

Dust Covers - One of the most common accessories is a cylinder cover, which is useful in dusty or dirty environments. (See figure 13.) The cylinder cover can be easily added to any existing Kirk Key Interlock.

Mounting Bolts - to prevent unauthorized tampering, Kirk Key Interlock Company offers tamper-proof mounting bolts and, for customers that prefer indication of tampering, sealing wires.

Auxiliary Switches - are also a common addition to key interlocks. The auxiliary switches are enclosed in a casting mounted to the interlock housing and attached to the locking bolt of the interlock. Movement of the locking bolt, by turning the key, will open or close the electrical contacts.

Two styles of switches are prevalent as key interlock auxiliary switches. One style (Kirk "K" Switch) makes use of a snap-action, DPDT toggle switch providing quick-make and quick-break contacts. (See figure 14.) The other style (Kirk "S" Switch) is a slow-make, slow-break switch available with various numbers of N.O. and N.C. contacts. (See figure 15.)

The contacts of the auxiliary switch are utilized for many functions such as:



14. Type B (base mounted) interlock with a type K toggle switch. The cover plate has been removed to show the switch.



15. Type F (flat) interlock with a type S switch. The cover plate has been removed to show the switch.

(a) Interlock status indication on a remote control panel or other monitoring system.

(b) Disabling electrical equipment functions such as circuit breaker closing circuits.

(c) Sound an alarm.

(d) Motor control.

Note that because of their construction, auxiliary switches cannot be field installed on existing key interlocks. Key interlocks requiring auxiliary switches must be designated as such at the time of the order.

Interlock Symbols

In order to understand sample key interlock schemes, it is necessary to become familiar with diagram symbols pertaining to key interlocks and the equipment to which they are mounted. Figure 16, is a list of the most common interlock symbols.

Application Schemes

The example interlocking schemes that follow pertain to Kirk Key interlocks installed on electrical equipment. However, the same principles apply to any type of mechanical application - so keep that in mind as you review the sample schemes. Kirk Key Interlock Company offers a publication called the "Scheme Book" which details forty-two sample schemes for your reference. The Scheme Book is available for immediate downloading

via their website (www.kirkkey.com). Other application data is also available from Kirk® Key's website.

Interlocking a Single Unit in One Position

The simplest application of an interlock is shown in figure 17. Consider a switch or device that must be locked in the open position. Possession of the key indicates that (interlocking a single unit in one position) the device is in the open position and is locked by extension of the locking bolt (note the L-O designation signifying that the lock is used to lock the device in the open position). When the key is inserted in the lock and turned to withdraw the locking bolt, the device is free to operate to the closed position and the key is held in the lock.

When a device is to be locked only in the closed position, an interlock is used as shown in figure 18. The possession of the key indicates that the device is locked in the closed position, as the locking bolt has been extended to remove the key. When the key is inserted in the lock and turned to withdraw the locking bolt, the device is free to operate to the open position and the key is held in the lock.

Interlocking a Single Unit in Two Positions

Two methods are used in interlocking a device in both the open

and closed position. The first method requires only one interlock as shown in *figure 19*. The interlock bolt is extended in both the open and closed positions. This is accomplished with two recesses in the device, which is being interlocked, each coinciding with the locking bolt in one position.

The possession of the key indicates that the locking bolt is extended and that the device is locked in either the open or closed position. Furthermore, the device cannot be operated until the key is inserted and turned in the lock to withdraw the locking bolt. The key cannot be removed from the lock in an intermediate position, but in the fully open or closed positions only. In this application, possession of the key however gives no indication as to whether the device is locked closed or open.

The other method for locking in both the open and closed positions requires two interlocks as shown in *figure 20*. Possession of Key A1 indicates that the device is locked open; possession of Key A2 indicates that the device is locked closed.

The device is shown normally open, therefore, Key A1 is free and

the L-O interlock bolt is extended into its recess provided in the movable member while Key A2 is held and the L-C interlock bolt is withdrawn. To close this device, insert Key A1 in the L-O lock, turn to withdraw the locking bolt of L-O interlock, which permits the device to be operated. Now the device can be moved to the closed position, and Key A2 can be turned to extend the locking bolt of the L-C interlock into its recess, locking the device closed. This releases Key A2 from the L-C interlock. Meanwhile Key A1 is held in the L-O interlock as its withdrawn bolt cannot be extended.

This method is utilized more often than the single, two position interlock, shown in *figure 19*, due to its adaptability to sequence operations. Also, the possession of Key A1 or A2 indicates that the device is locked open, or locked closed, respectively.

Sequence Interlocking

With the fundamentals developed above, it is quite simple to extend the application to the interlocking of two or more devices in a desired sequence. Two devices are shown in *figure 21*. In operation they are not

closed at the same time. With the interlocks arranged as shown, only one key is required in the interlocking system. Both devices are shown open, therefore, the key is free. To close any one device the key is inserted and turned in that particular lock to withdraw the interlock bolt. The key is held in this lock until the device is again locked open.

This simple interlocking sequence lends itself to a multitude of applications including valves, control rods, doors, safety guards, et cetera, which are locked open or closed, corresponding to the locking indicated on the switches in *figure 21*.

Complex Interlocking

The criteria for the following scheme in *figure 22*, is as follows: 1) prevent paralleling incoming primary sources, lines 1 and 2, through the primary tie bus disconnect; 2) prevent operation (open or closed) of the disconnects under load; and 3) permit one power source both loads through the tie bus.

Under normal conditions breakers A and B are closed, disconnects C and D are locked closed, and tie bus disconnect T is locked open. Keys A1

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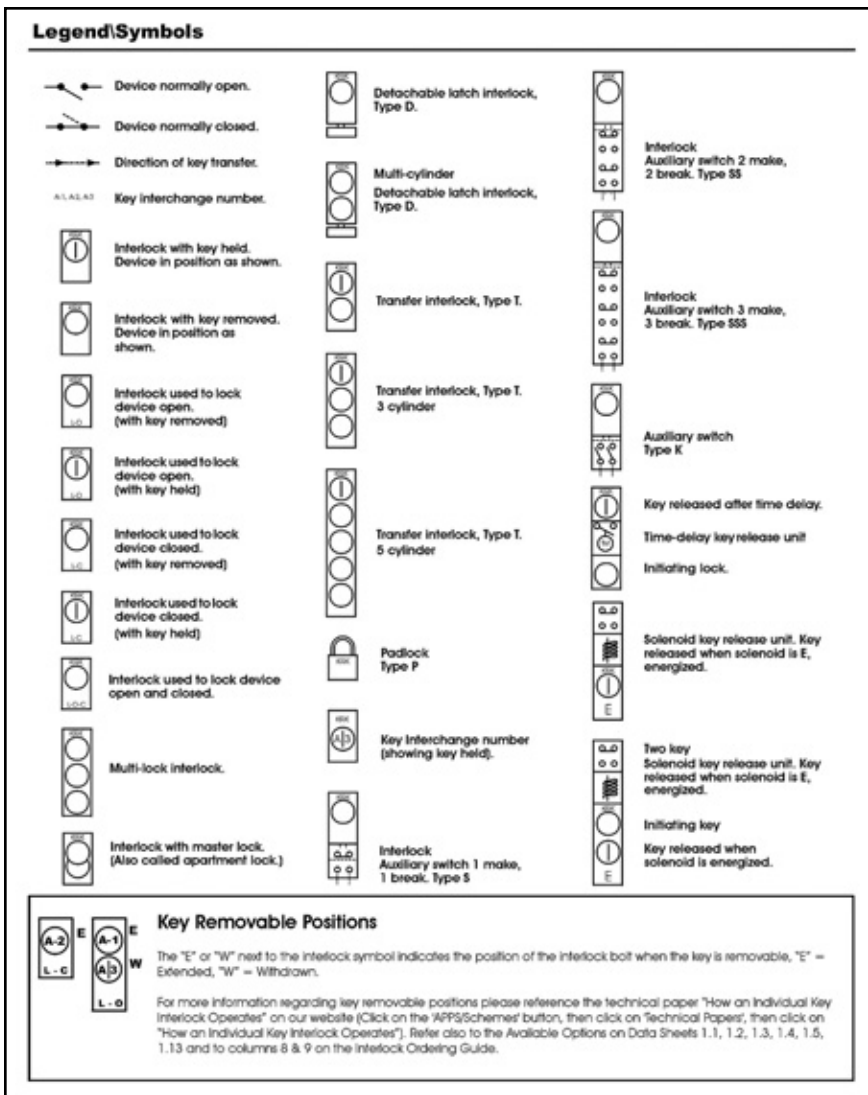
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16. The most common interlock symbols.

are held in L-O interlock on breaker A and L-C interlock on tie bus disconnect T. Keys A2 are held in L-O interlock on disconnects C and D. Keys A3 are held in L-O interlock on breaker B and L-C interlock on tie bus disconnect T. Keys A4 (free keys) are shown removably held in the L-C interlocks on disconnects C and D.

To transfer load No. 1 from line 1 to line 2 through bus tie disconnect T, proceed as follows:

- 1-Open Breaker A
- 2-Turn Key A1 in L-O interlock on breaker A to lock open. Key A1 is now free.
- 3-Insert Key A1 in L-C interlock on disconnect C and turn to unlock. Keys A1 and A4 are now held.
- 4-Open disconnect C.
- 5-Turn Key A2 in L-O interlock on disconnect C to lock open. Key A2 is now free.
- 6-Insert Keys A2 and free Key A4

(from L-C interlock on disconnect D) in L-O interlock on bus tie disconnect T and turn to unlock. Keys A2 and A4 are now held.

- 7-Close bus tie disconnect T.
- 8-Turn Key A3 in L-C interlock on disconnect T to lock closed. Keys A1 and A3 are now free.

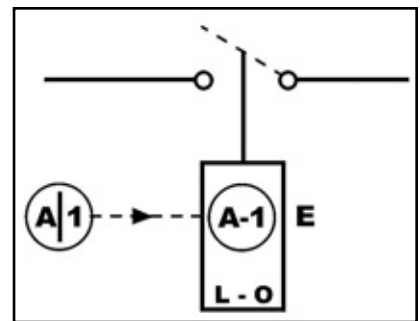
9-Insert Key A1 in L-O interlock on breaker A and turn to unlock. Key A1 is now held.

- 10-Close breaker A.

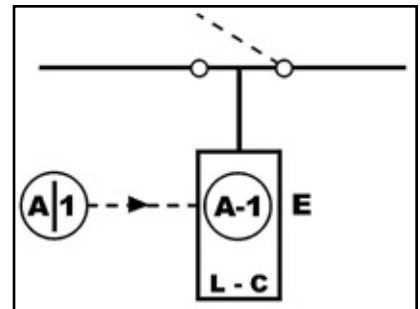
Reverse sequence to restore load No. 1 to line 1.

To transfer load No. 2 from line 2 to line 1 through bus tie disconnect T, proceed in a similar manner.

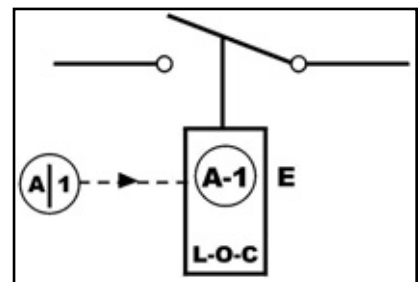
The number of available interlocking schemes is infinite. Every day, Kirk® Key Interlock Company product coordinators assist a variety of customers with interlocking schemes that are unique to their particular applications.



17. The simplest application of an interlock with a switch or device that must be locked in the open position.



18. When an interlock device is to be locked only in the closed position.

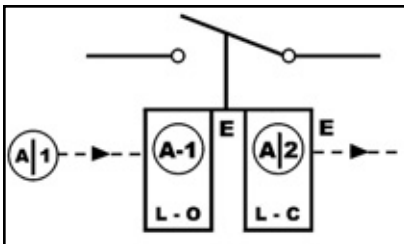


19. Interlocking a Single Unit in Two Positions requires only one interlock. The interlock bolt is extended in both the open and closed positions.

Key interlock systems can be developed and arranged to meet almost any type of interlock problem. In general, interlock system arrangements and/or functional requirements can be prepared by at least one of three different groups. These groups are: 1) the actual ultimate user of the key interlocks; 2) the engineering consultants or suppliers of equipment upon which the interlocks are installed; and 3) the key interlock manufacturer.

Key Control

In order to ensure correct operation of an interlock system, it is necessary to remove all loosely or removably held keys before operating the equipment on which the interlocks are



20. The other method for locking in both the open and closed positions requires two interlocks.

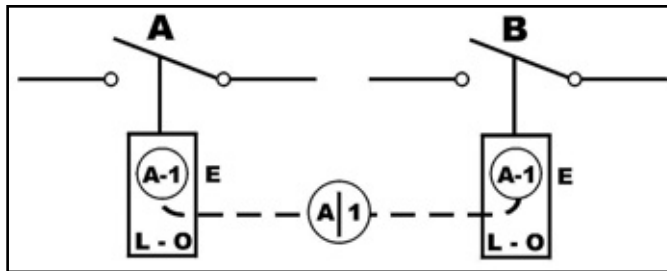
mounted. Each interlock system requires a certain number of keys held in specific interlocks during the normal operation of the equipment. All other keys must be removed.

Keys removed from interlocks should be destroyed or retained by authorized personnel for use as spare keys. The spare keys must not be normally available to operating personnel, since the use of these keys, where not specifically required, will result in incorrect operation of the equipment on which the interlocks are mounted. Any spare keys should be given to operating personnel only, if and when, the corresponding operating key has been destroyed.

Obviously, the integrity of a key interlock system cannot be maintained if keys can be readily duplicated in the field. For that reason, additional keys will be provided by Kirk Key only with proper authorization from the ultimate user to which the specific key combination has been assigned.

Important Points for Professional Locksmiths

When dealing with key interlocks, it is imperative for the professional locksmith to recognize that he/she is dealing with a system of interlocks



21. Sequence interlocking with two or more devices in a desired sequence.

often installed on high voltage electrical equipment. Don't take any chances. Get in touch with the manufacturer; Kirk® Key Interlock Company will quickly supply a key, repair an interlock, make a replacement lock - whatever it takes - so that you can put your customer back in service.

For a replacement key, obtain the SO# and Item# from the interlock nameplate along with all numbers and letters on the cylinder and key (both sides). Fill out the Duplicate Key Ordering Form and fax it to Kirk Key - your key or keys will ship within 24 hours. The form must be signed by the ultimate user, unless you are empowered by the customer to sign for duplicate keys.

Repair or Rekeying - under normal circumstances, Kirk Key Interlocks cannot be repaired in the field. Return the interlock to Kirk Key for repair - call Kirk Key at 800-438-2442 for a return authorization form to be included with the returned interlock. The repair or replacement interlock will be shipped very quickly.

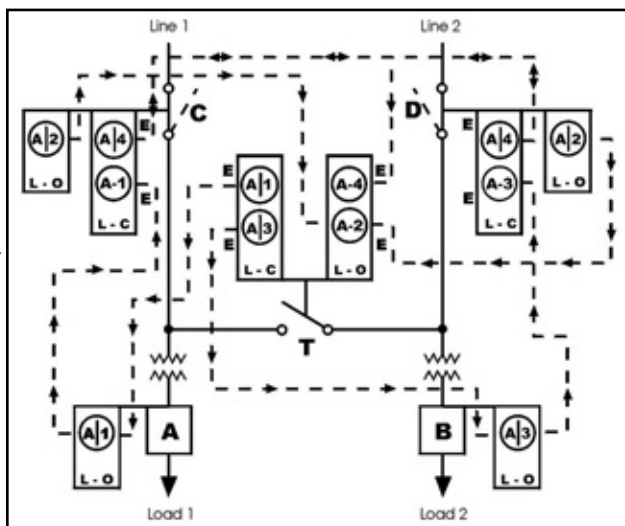
Conclusion

In conclusion, understanding that key interlocks can be applied as a safety feature on practically any operating device, it is possible to

select and arrange key interlock systems which will prevent and eliminate the destructive and sometimes fatal hazards resulting from mental or physical lapse of responsible operating personnel.

*If you need to repair or replace a key interlock or have an application that can be made safe by key interlocking contact: Kirk® Key Interlock Company, 211 Wetmore Avenue S.E., Massillon, OH 44646. Phone: 800-438-2442 or (330) 833-8223; Fax: (330) 833-1528; Web: www.kirkkey.com. Product Coordinators: Tom Baer - tbaer@kirkkey.com; Matt Define - mdefine@kirkkey.com; Michael Fink - mfinnk@kirkkey.com; Sales/Marketing Manager: Scott Life: scott@kirkkey.com; General Manager: Chris Smith - csmith@kirkkey.com. Circle 276 on Rapid Reply. **INL***

22. Complex interlocking.



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SPECIALIZED DOOR SECURITY PRODUCTS

by Greg Snowman

In today's world of ever-increasing safety and security concerns, yesterday's solutions for door security may not be applicable in situations that involve more imaginative and destructive methods of vandalism and breakage. For this reason, commercial door hardware manufacturers are continually researching and developing specialized products to meet the growing demand for stronger and more vandal resistant locks and exit devices.

How do ideas for these innovative new products come about?

At Yale Commercial Locks and Hardware, some of the products come from "problem solutioning" exercises conducted by our engineers in their continuous effort to make existing products better. However, most ideas come from customers, who work day in and day out with door hardware and the seemingly infinite number of situations in which it gets abused, broken and mistreated. Generally, there are two methods by which these ideas reach us: informally through surveys or meetings or by direct request for a specific application.

Field input has been an invaluable source of information for Yale in developing specialized door hardware to meet today's most demanding security applications. By conducting surveys and listening to ideas generated from Yale's Continuing Education Programs, we're able to find what type of special situations would call for a particular feature or function to be

utilized. Perhaps an existing product could be made of stronger material for increased vandal resistance, or a new design implemented to decrease the chance of break-ins. Literally anything is open to suggestion, and with the importance placed on security in an increasingly dangerous world, those suggestions are being investigated with more and more interest.



1. The Yale SL8700.

Direct requests for specific applications are another method by which Yale is able to pioneer the development of products that provide unique features and specialized functions. As a full-service provider of mechanical and electronic hardware, Yale is able to respond and introduce the requested features and functions into one or a variety of specialized products that can be applied to a specific need or across a wide range of applications.

A case in point is Yale's SL8700 Series heavy-duty mortise lock. At the request of the New York City Board of Education, Yale was asked to come up with a mortise lock and trim package that can withstand vandalism and prevent lever breakage. The result is the SL8700, a beefed-up version of Yale's existing 8700 Series mortise locks. (See photograph 1.) In answer to vandalism concerns, an extended locking stop plunger and an additional locking cam were added to ensure locking in two places. The incorporation of a built-in stop pin prevented over-torquing the lever. Vandal resistant trim was improved with a heavy-duty lever escutcheon and no visible outside screws. To address lever breakage, trim levers were attached to the escutcheon and a heat-treated spindle was developed that can withstand 1,200 inch pounds of force.

The result of these innovations? Problem solved. New York City Schools became a little bit safer and a new product was launched, based on the expressed need of an end-user with a genuine security concern. Though initially designed for a classroom environment, other applications for the SL8700 soon became apparent and end-users facing different security situations discovered their solutions in one product. The SL8700 mortise lock is now available in all functions and has found use in such places as factories, office buildings and apartments in high crime areas, and even minimum-security prisons.

Continued on page 56



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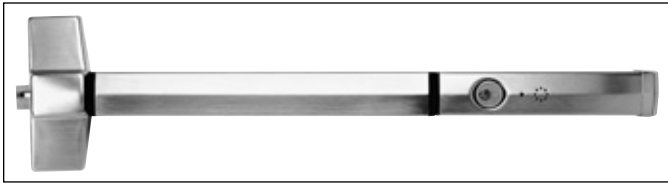
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An example of a product being designed as a result of field input is Yale's 7000 Series SquareBolt™ exit device. (See photograph 2.) In reports



2. Yale's 7000 Series SquareBolt™ exit device.

by end-users working in particularly abusive environments, the traditional rim exit devices being used were vulnerable to unauthorized entry in a number of ways including prying, rattling and shaking. There was even enough physical force being exerted to twist the mullions and pop the standard Pullman type latchbolts from the strikes, resulting in big financial losses due to vandalism and theft. These customers needed an exit device that could achieve a new level of security without compromising safety, yet still look good and compliment architectural decor.

Industrial grade wouldn't do, so the Yale engineers went to work and introduced a new patented square latchbolt design into the existing 7000 Series architectural exit device that provides an improved physical barrier over standard rim exit devices with Pullman type latchbolts. A cross between a rim latchbolt and a deadbolt, the SquareBolt latch exerts several pounds of force against a doorframe (vector forces) when pulled or pried, significantly decreasing the possibility of separating the door and frame. Its inherently stronger square design and increased projection into the strike better resists rattling and shaking. When used with mullions, the increased latch projection—combined with less vector force—prevents twisting and greatly increases the stability and structural integrity of the openings.

The Yale 7000 Series SquareBolt proved to be the answer to complaints concerning standard rim exit devices in vandal-prone areas of schools, hospitals and institutions. During its relatively short time in existence, the SquareBolt has gained a great reputation as an exit device that provides both aesthetics and higher security.

In recent times, we've seen more emphasis placed on electronic access control with options ranging from function monitoring to remote switching. Electrified hardware is increasingly being used in places where it wasn't deemed important or necessary just a few years ago. As a result, customers are asking for specialized

functions such as electric latch retraction and delayed egress for exit devices. Stand alone electrified locksets with audit trail capabilities, mortise locks with latchbolt monitoring and request-to-exit switches, and even motorized cylindrical locksets are all being developed to meet the needs of a growing population of businesses and industries concerned with security, accountability and the welfare of their employees.

Once again, Yale has been at the forefront in providing customers with what meets their needs. The SecureX™ delayed egress exit device is just one of the many new electromechanical products developed for specialized applications. For example, SecureX has played an important role in businesses and institutions where egress is attempted through unauthorized exits. With its 15 or 30 second alarmed delay, SecureX allows someone in authority to respond before the device will open. It has been especially useful in psychiatric facilities and on the secondary exits of retail stores as a means of theft prevention. The host of electronic options available for SecureX makes it easier to incorporate into access control systems. An internal door-positioning switch causes an alarm if the door is not closed and latched, and a latchbolt monitor senses the position of the latchbolt or vertical rods to insure doors are secured. When using outside trim, a trim monitor switch can be used that will allow bypass when the trim is used for ingress. Electronic Trim Control (ETC) with fail safe operation releases the trim for entry in case of fire. (See photograph 3.) ETC with fail secure operation allows entry by means of a remote card reader, key switch, pushbutton or a variety of other electronic means.




3. Electronic Trim Control.

With both mechanical and electromechanical hardware, the possibilities for different functions and applications are virtually limitless. But without ideas and suggestions from customers who actually experience everyday situations and see the need for where they can be used, many of these products wouldn't exist today. This has always been a realization among door hardware manufacturers, but in light of today's trends and the move toward more specific and personalized applications, a much greater emphasis is being placed on what the folks in the field want.

So you never know. That pesky problem you're having with a cylindrical or mortise lockset not doing what you need it to do may relate to a situation a lot of people are experiencing. Why not tell somebody about it? It could lead to the solution you're looking for!

For more information contact Yale at: Phone: 800-438-1951 or 704-283-2101; Fax: 800-338-0965; Web: www.yalelocks.com.

Greg Snowman is Product Marketing Manager for Yale Commercial Locks & Hardware, one of eight brands marketed by YSG Door Security Consultants in Monroe, North Carolina.

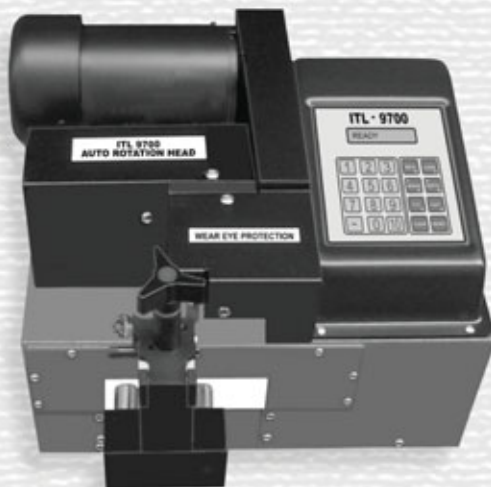
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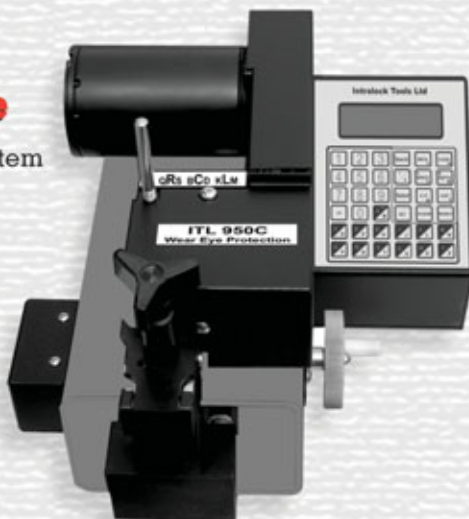
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QUICK ENTRY UPDATE



by
Steve Young

TECH TRAIN
PRODUCTIONS

2003 Ford Expedition and Lincoln Navigator

Back in 1996, BMW introduced a redesigned version of their 500 and 700 series vehicles. One of the features that I found interesting on these vehicles at the time was that there was no lock cylinder on the passenger side door. That door was intended to be unlocked only with the remote or from the inside of the vehicle. Whether by accident or design, BMW had hit upon a technique that was the dream of manufacturers all over the world. They had found a way to cut their cost and simultaneously increase the “perceived value” of the vehicle!

From the consumers point of view, the absence of a lock on the passenger side of the vehicle made it appear that the vehicle would be harder to break into. Many incorrectly assume, or are told by sales people, that because the vehicle has one less point of attack for would-be car thieves, it is better protected. From the manufacturers view, the car simply costs less to build, both in labor and materials, weighs less and therefore gets better fuel economy. It wasn't long before other manufacturers started following suit by offering vehicles without locks on the passenger side door.

If the goal of the manufacturer is to offer a vehicle with no lock on the passenger side, there are three ways to accomplish this.

1. Design and implement a new door latch that has no connection point for a door lock.



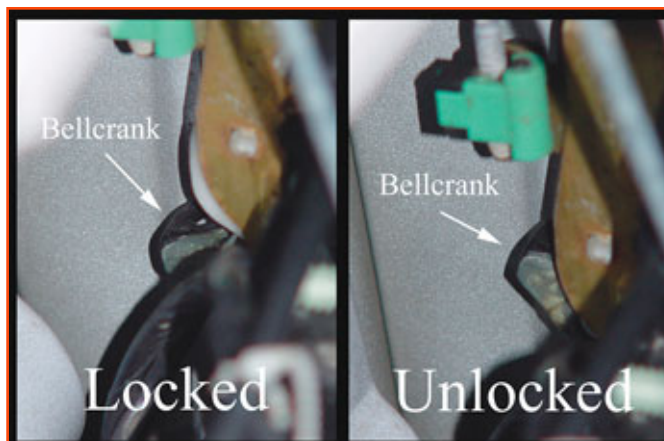
1. 2003 Ford Expedition



2. The long end of the TT-1000 tool is inserted as far to the rear as possible.



3. Lower the tool until it contacts the horizontal frame member inside the door.



4. Inside the door you can see the unprotected latch bellcrank in both the locked and unlocked positions.

2. Install a shield over the existing door latch to protect the bellcrank that would normally be connected to the door lock.
3. Simply leave out the door lock and leave the latch bellcrank unprotected.

In the case of BMW, no extra protection was needed for the door latch because of the deadlock system, but the same is not true of other manufacturers. Nissan is an example of a manufacturer that has adopted this system very successfully by adding an inexpensive guard over the door latch. Ford on the other hand, has chosen to simply leave the door lock out and leave the latch bellcrank unprotected. In the final analysis, this results in a door that is easy to attack and unlock with a Slim-Jim or almost any other kind of car-opening tool.

Three Ford vehicles that are built this way are the Ford Mustang made from 1999 and up and the all new Ford Expeditions and its sister vehicle the Lincoln Navigator. (See *photograph 1.*) The door latches that are used on all three vehicles were designed to be used in conjunction with locks that have rigid cams. Without a lock on the door, the

Quick Reference Guide	
Vehicle: 2003 Ford Expedition and Lincoln Navigator	Security System: E-PATS (Encrypted Wedge Transponder)
Direction of Turn: (driver's side): Counter-Clockwise	Lock Manufacturer: Strattec
Tool: TT-1017 or TT-1000	Code Series: 0001X-1706X
Lock System: 8-Cut Ford, Sidebar Ignition and Plate-Tumbler (wafer) Style Door and Hatch Locks	Transponder Key Blanks: Strattec: 599114 —Ford Logo, Strattec: 691259 —Lincoln Logo

bellcranks on these latches are totally exposed, and easily attacked with almost any car-opening tool that will fit into the door.

Both the Expedition and the Navigator can be unlocked by attacking the unprotected door latch on the front passenger door. Begin by wedging open a gap between the glass and the weather-stripping at the base of the window as far to the rear as possible. (See *photograph 2.*) Carefully insert the long end of the TT-1000 tool

into the door and lower it until it stops against the horizontal frame member inside the door. (See *photograph 3.*)

At this point, twist the tool so that the end that is inside the door is pointed toward the inside of the vehicle. Slowly pull up on the tool while watching the inside lock button for movement. When the tip of the tool contacts and lifts the unprotected bellcrank, the inside lock button will pop up and the door will be unlocked. If the tool fails to make contact, you can locate the bellcrank by probing up and down with the tool until you see the inside lock button move. Once the tool is in contact with the bellcrank pull up to unlock the door.

Photograph 4, shows the latch mechanism inside the door in both the locked and unlocked positions. *Photograph 5,* shows the tip of the TT-1000 tool in position as it unlocks the door. Note the position of the horizontal frame member inside the door in relationship to the latch bellcrank. As you can see, the frame member and the bellcrank are very close to one another, so if you have to probe for the bellcrank you won't have to probe very far if you use the frame member as a point of reference.

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5. The tip of the TT-1000 in position lifting the bellcrank to unlock the door.

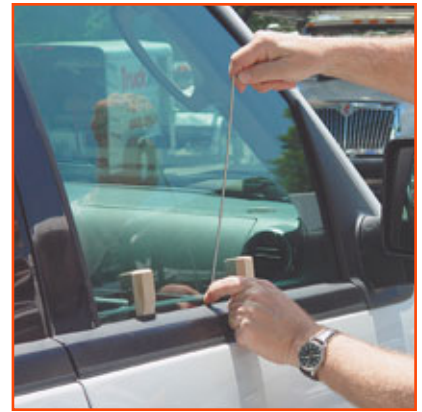
Another method for unlocking both the Expedition and the Navigator is to use the TT-1017 tool to lift the inside lock button linkage directly. The problem with this method is that the lock control linkage is very slick and the tool will slip unless you apply a non-slip coating to the end of the tool. I use a small loop of duct tape turned with the sticky side out over the end of the tool to increase the gripping power. The advantage to using this method is that it will work on either the passenger side or the driver's side door. To use this method,



6. The TT-1017 tool is inserted at the rear of the door.

wedge open a gap into the door cavity just as in the above method. (See photograph 6.) Then carefully insert the tool so that you can grip the vertical inside lock control linkage from the outboard side of the door.

Lower the hooked end of the tool into the door as deeply as possible before rotating the shaft of the tool so that you can continue inserting the tool. *It is very important to make sure that the hooked end of the tool is as deep as possible whenever you are rotating the shaft, both as you are inserting the tool and removing it. Failure to do this can put excessive stress on the window*

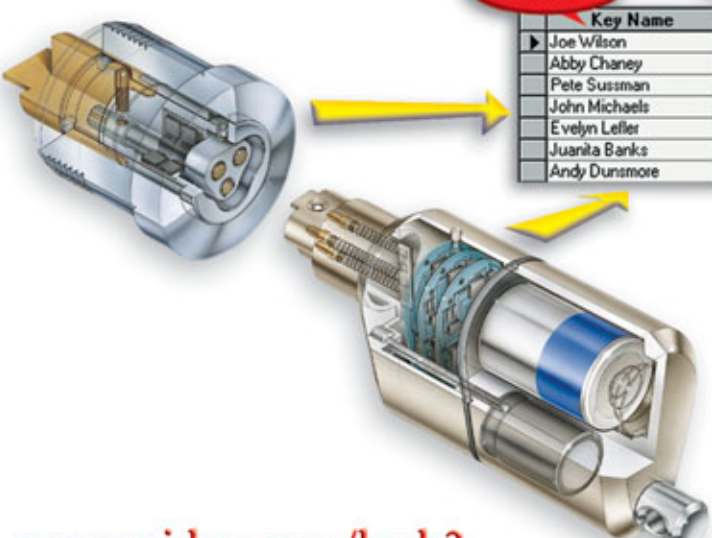


7. Pull forward on the tool to grasp the linkage rod, then lift the linkage to unlock the door.

glass, possibly resulting in a broken window. Once the tool is in position, probe for the vertical linkage rod while watching the inside lock button for movement. When the tool contacts the linkage rod, pull the tool toward the front of the vehicle to grip the rod and then pull up on the linkage to unlock the door. (See photograph 7.)

The Expedition and the Navigator both have a substantial frame around the window glass so the Jiffy-Jak Vehicle Entry System can also be used to unlock the door. **TRM**

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Abby Chaney	West Entrance	03/20/2000 07:28:03 AM	Key Authorized
Pete Sussman	Records Room	03/20/2000 07:59:15 AM	Out of Schedule
John Michaels	Computer Room	03/20/2000 08:00:03 AM	Key Authorized
Evelyn Lefler	West Entrance	03/20/2000 08:12:16 AM	Key Authorized
Juanita Banks	Computer Room	03/20/2000 08:18:52 AM	Key Authorized
Andy Dunsmore	Computer Room	03/20/2000 08:27:12 AM	Denied

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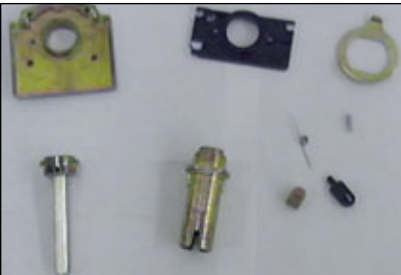
A Member of the KABA Group



by
Gene Hansen

To start with, Tesa does not sell parts to locksmiths, only end users. When I inquired into parts to repair a lock, I was told that Clutch Kits are \$54.00, replacement locks are \$1500.00, and to send one in for repairs is \$300.00 plus shipping both ways. And Tesa would only sell to the manager of the property.

One of Tesa's failings in the HT20i and other models of similar design is the clutch mechanism springs, which become weak and fail over time. *Photograph 1*, is the replacement clutch kit parts. It comes in a lightweight plastic bag, which can and has fallen apart. When you receive a clutch repair kit, I suggest that you put it in a heavier bag right away.



1. Tesa Clutch kit parts from manufacturer. Top plate, cover, spindle cam, shaft, handle spindle, clutch driver, clutch activator and springs (2).

There are two springs in the kit, one is a compression style spring and the other is a lever style spring, and the tension of both is very close (don't bend them!) Sometimes the lock will not unlock when the lever handle is pressed downward, but will open when the handle is lifted. This is sometimes caused by wear on the handle spindle and it doesn't take much to cause problems. One quick fix is to put it on another door right to left, reversing its position and allowing the handle to open in the downward movement.

Before any repairs are started, first replace the batteries. A lot of problems start with weak or old batteries (even those right from the package that have been on the shelf too long.) If the lock has a green light when trying the card swipe, the batteries are not the problem. If the lock has a green/red flashing light, replace the batteries. If there is no light, it could be dead batteries or a dirty card reader. Clean the reader with electronic cleaner or an alcohol base cleaner.

Tesa Lock Replacement Clutch

Tools Needed:

- Probe Tool
- Phillips #2 screwdriver
- Torx #10 screwdriver

Bypassing the Lock:

- One way of bypassing the lock is to use a Keedex K-22 lever-opening tool. It works well, unless someone pushed in the small triangular dead pin on the lock. That binds the lock and you cannot open it from the inside or out. You then have to make a decision to either sacrifice the door or the lock. I would drill for the inside cam by using an open door to get measurements. Then you can put a MAG wrap-around plate on to hide the drill location.
- The second option is to use the portable module to open the lock. The manager usually keeps the unit locked up and most of the time the batteries are low.
- If the lock is not working when you push down on the lever, try to lift it up; it probably needs a new clutch. Swap it out with one that is handed the other way until parts arrive so that the wear will be on the other side.

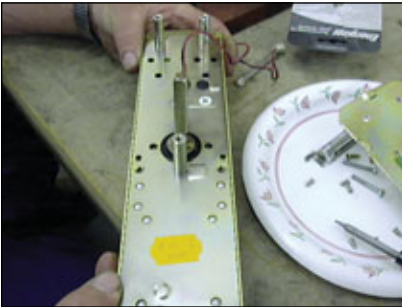
Disassembly and Repair Procedures:



2. Tesa lock mounted on display for pictures and use at desk for operation instructions.



3. Battery cover removed. Uses torx tip driver #15 (screw on bottom of case on the outside). Access to batteries if lock is dead, requires four AA batteries. Also jack plug on bottom for portable module.



4. Lock removed from door with back facing up. Note wire from deadbolt, spindle shaft, four threaded legs for through screws (door mounting). To remove back plate, take six torx screws out and carefully remove wire plug.



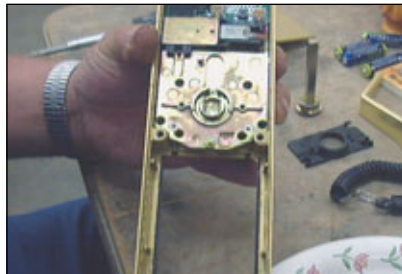
5. Lock back plate removed showing wiring and battery circuit board. Note wire path and plug.



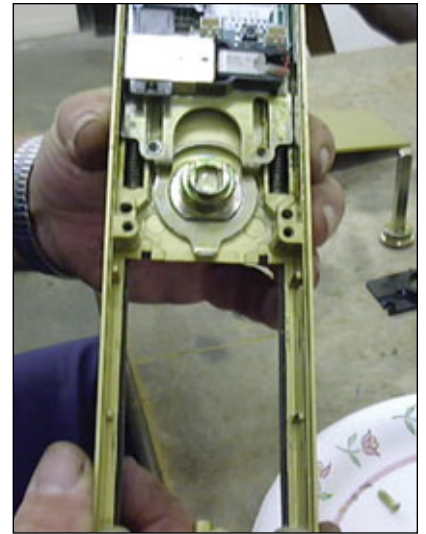
6. Lock back plate removed showing cover and spindle shaft rubber gasket (2 torx screws are under gasket to remove cover). Gasket has self-stick on one side; set aside to reuse. It is not in the replacement parts. You can see the lever spring from this point in disassembly.



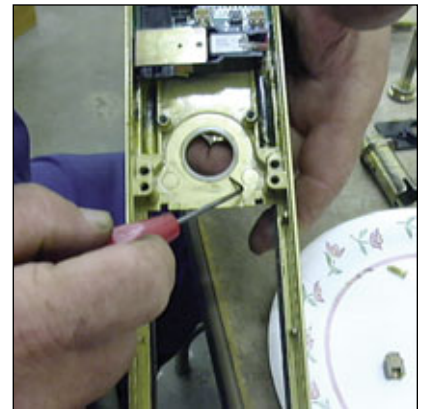
7. Drive gear, springs clutch and back plate. Note six torx screws (only 4 need to be removed). Note position of lever spring on post. If put in reversed it will not operate. When in locked position, driver pushes into clutch against the compression spring and keeps spindle from operating shaft. Be very careful of springs, they like to bounce out and hide in the hardest place to get to. The driver is made of plastic, the clutch is pot metal. Look very closely for wear and save all old parts to be reused in an emergency.



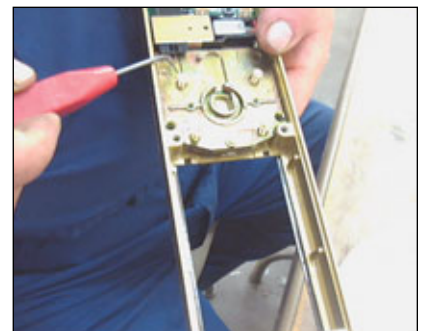
8. Lock screws removed (remember only 4 need to be removed the other 2 are used as stops for activator). Note direction of spindle for clutch and spring assembly. Remove plate, springs, spindle inspect spindle and shaft for wear and weakened springs.



9. Lock drive gear and spindle cam and springs. Don't lose any parts (not in kit) and keep in mind the direction of spindle and cam for clutch reassembly.



10. Pointer shows plastic bushing (part not furnished in kit). If worn out or missing you'll have to send in the lock if you can't find a replacement. Reassemble spindle, drive cam, gear drive and springs, and install back plate.



11. Be sure to put back plate under motor drive arm before setting and tightening screws.

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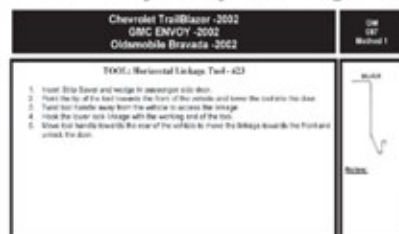
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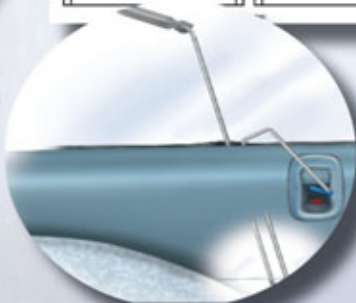
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.265	3.850 .492	Tayl		Guide Keys			
.239	4.757 .584	Strat		Curtis	GM-6	GM-6A	15W-45
	5.665 .676	Bör	A-49-101, SK6400	KWY			
	6.573 .768	Curt	B-96				
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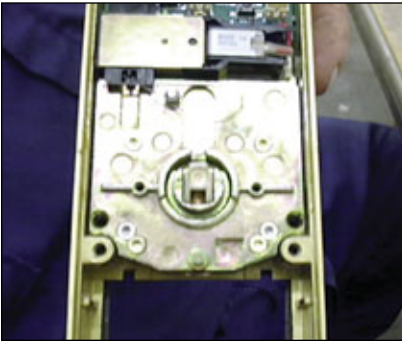
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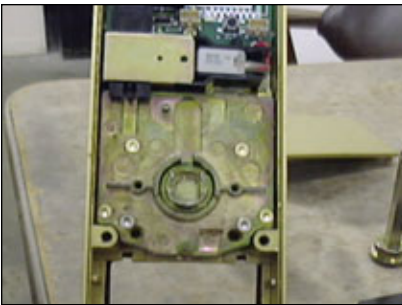
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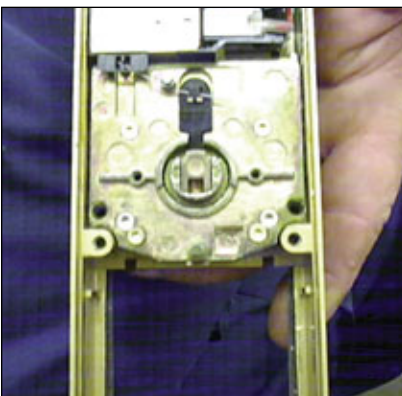




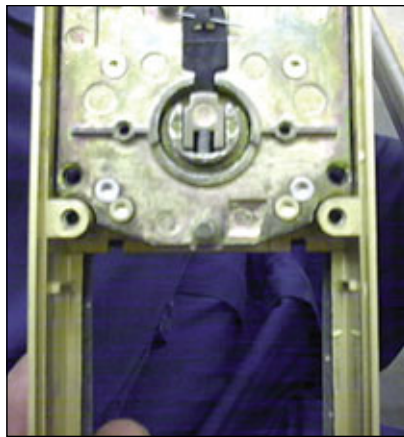
12. If screws are put in wrong holes the outside lever will not retract the bolt fully. The inside handle is not affected. You would think it would be, but the clutch is not engaged until card is inserted into outside reader, therefore not moving the inside parts that are affected by the screws. Tesa Lock screws installed in wrong holes on lower portion will not allow the lock to operate properly.



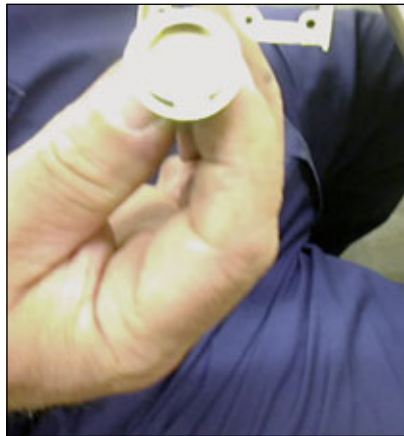
13. Lock screws installed in correct holes for lock to operate properly.



14. Insert lever spring into motor drive arm. The wires must be on the lower side of the pivot pin or the lock will not lock, because of the angle of the wire. Slide the drive gear onto the wire and into the slot, next put in the clutch gear and spring. Be careful not to lose or crush spring, it will be under tension.



15. Clutch drive in place with spring and drive gear (note screws in wrong position).



16. Notch for clutch to fit into when activated. Also notice the raised notch on backside for movement restriction, so lever won't spin all the way around.



17. Spindle standing up in lock ready to have cover put on. You can see the hole for the jack in this picture.



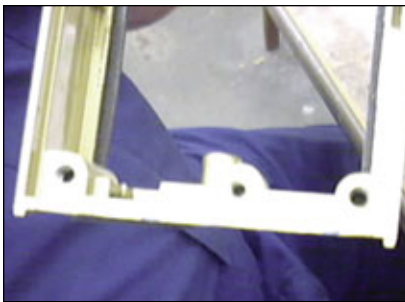
18. Install plastic cover with the two short screws. Be careful not to over tighten and break cover. This holds the spindle and wire harness in place.



19. Battery case shown upside down to show power jack plug. Hand held module could open locks when battery or cards fail to power up the lock.



20. Battery case shown from end. Notice the power plug jack slot and screw hole for the battery cover plate.



21. Case top view of the slot for the power plug jack.



22. Lock battery case installed. Wire harness in place. Wire plug and wire need to be clear of motor in case of overheating and causing melted wire.



23. Lock reset button. Don't touch it. This will reset the lock and you will need to reprogram the lock with the desktop and portable hand held module to get it working again. It erases the memory of the lock so the cards will not work. Will not recognize the master or the room card keys. Does not reset any faults as far as I have been able to determine.



24. Install gasket and batteries.



25. Check wire route to make sure wires are under clips and check battery connections. Check all wire plugs to make sure all are fully plugged in and spindle is free moving.



26. Install shield over circuit board. This protects the circuit board from the back case cover.

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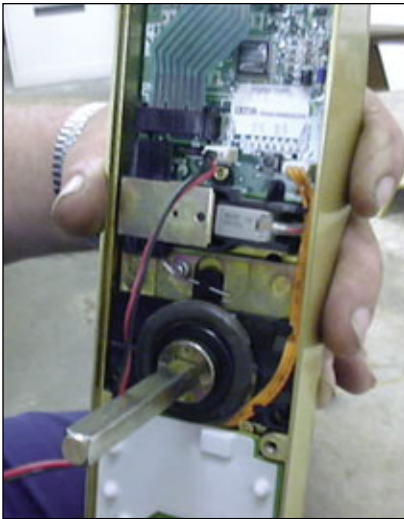


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27. Deadbolt switch wire. Note position of spring in the case, to verify proper operation.



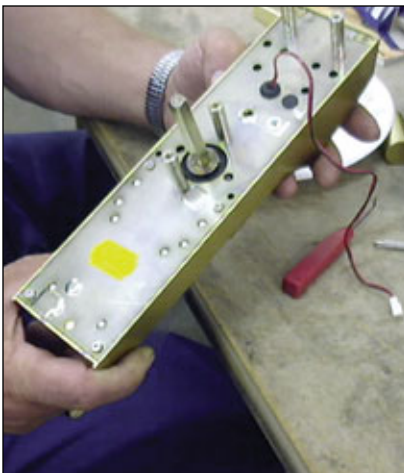
30. Tesa remounted to door. Two top screws and two screws through the plastic at the spindle. Extra wire is coiled up to stay out of the way. Take special note of the deadbolt switch. If installed wrong, the card will not operate the lock. Try the lock with the door open the first couple of times. The switch tells the lock that someone is in the room and not to allow entry by the maids or other normal cards. The manager override card or the hand held module could still open the door.



32. The power plug jack for the hand held module and screw hole.



28. Install back cover carefully. Feed wire through the case to keep from binding or pinching, or pulling out rubber gasket.



29. Install all six of the cover screws, start all before tightening them.



31. Install battery cover plate and secure with the screw. Check to make sure the deadbolt operates properly inside and out.

**Guest Room Locks:
Normal & Problem Light Indications**

A lock displays a 6 second steady GREEN light and flashing RED light to a STAFF card:

1. Low Battery Indication
 - a. The lock will Delay opening for 1.5 seconds
 - b. Replace the batteries with APPROVED Batteries (alkaline) not all batteries will work in TESA Locks

The Lock does not show any light at all and appears to be "dead":

1. Remove Batteries and install Fresh Batteries
2. Attempt to open with Portable Program Module
3. Call TESA ESI Help Desk.

Trouble Shoot Page 1.

The Lock Displays a Green Light, you hear the lock motor but the door does not open:

1. The lock clutch may be damaged
 - a. Lift up on handle to open the Door
 - b. Do not allow the door to close.
 - c. replace with clutch kit

The Lock displays a flashing GREEN light:

1. This should occur on wall readers or back of house locks, NEVER guest rooms.
2. This means the door is in passage mode and is unlocked already.
3. This door may be relock by a double insertion of the proper key.

Trouble Shoot Page 2.

A flashing RED and GREEN light to a GUEST card:

1. This is the PRIVACY indication which means the deadbolt is locked.
 - a. The guest inside the room must unlock the door.
 - b. The manager's EMERGENCY card can unlock the door.
 - c. The Portable Program Module can unlock the door.
2. If there was NOT a guest in the room, remove the lock and check for a damaged deadbolt wire or broken switch in the lock.

Trouble Shoot Page 3.

A flashing RED and GREEN light to a STAFF card:

1. This is not a problem. This is the PRIVACY indication which means the deadbolt is locked and the guest is in the room.

2. If there was NOT a guest in the room, remove the lock and check for a damaged deadbolt wire or broken switch in the lock.

A lock displays a flashing RED light:

- 1. The lock was BLOCKED.
 - a. Use the blocking card to unblock.

Trouble Shoot Page 4.

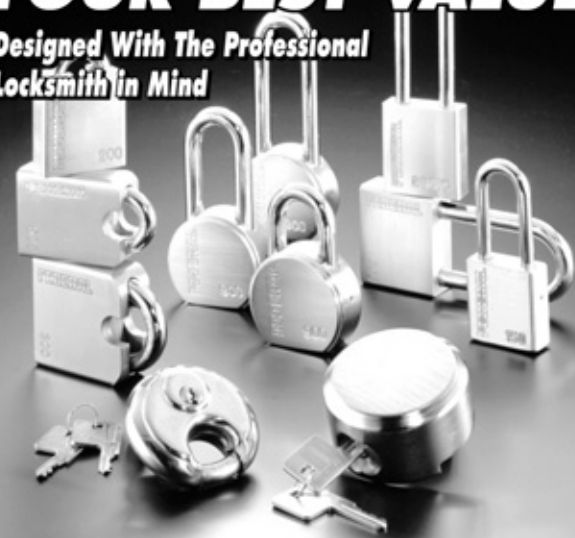
Door won't open and the lock displays a RED light:

1. An Immediate red light upon insertion of the card indicates that the lock HAS REJECTED THIS CARD. Use the READ CARD function to determine the reason. The reasons may be:

- a. The Card expired today at checkout time.
 - b. The Card is for a different room.
 - c. The Card is "not a valid code" which means a newer card has been inserted into this lock.
 - d. The Card has the wrong date.
 - e. Was this guest card CANCELED by the manager's canceling card?
2. A delayed red light about 6 seconds after insertion means:

Trouble Shoot Page 5.

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- a. The Card was erased or damaged by a magnet.
 - aa. Encode the card again.
- b. The Card was inserted incorrectly.
 - ba. Instruct the user on how to insert the card.
- c. The Read Head of the lock is dirty or damaged.
 - ca. Use a cleaning card in the lock.
 - cb. Call TESA ESI Help desk for Advice.
 - cc. Call 1-800-248-6189 This is a direct line into the TESA ESI Technical Support Help Desk. There may be a charge for this service if: You are no longer under warranty, or You do not have a service contract.

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Trouble Shoot Page 6.

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The Next Generation



by
Sal Dulcamaro,
CML

Although the Biaxial patent doesn't

Maybe I'm getting old, but it doesn't seem like that long ago that I was hearing about the original Medeco patent expiring and the introduction of Biaxial. Well, it's that time again.

expire until July of 2005, Medeco is introducing its third patented lock design. Medeco Generation 3 or Medeco3, as they are calling it, will be on display at the ALOA show in Las Vegas in July. Just as in Biaxial, the new generation lock and keys are not here to overcome a shortcoming in pick resistance, but instead to maintain patented key control. Utility patent #6,477,875 was issued on November 12, 2002. (See figure 1.) With a life span of 17 years, it will run

until November of 2019. The design was invented by Peter Field and a Medeco machinist, Andy Perkins.

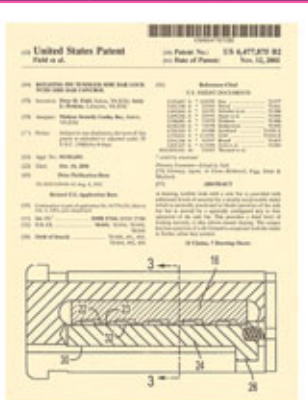
There will be two (pending) trademarked identifiers for the new product. (See figure 2.) One will be a Medeco "m" with a sideways "m" to look like a "3". The other representation will be the word "Medeco" to the power of "3". It might also be referred to as a superscript "3".

An exploded view of the new version lock looks very much like a regular Biaxial cylinder, but with a few additional parts in and around the sidebar. (See figure 3.) After some discussion of the new version keys, I will describe the mechanical operation of the components.

Medeco got wise this time and designed in a great deal of compatibility with earlier generation Medeco products. If you long for the days of the original Medeco design, there will be a version compatible with Medeco third generation. Both Biaxial and original Medeco version

Patent

- ▲ Utility Patent
- ▲ Filed Feb 6, 2001
- ▲ Good Till Feb 6, 2021
- ▲ Inventors
 - ▲ Peter Field
 - ▲ Andy Perkins
- ▲ Patent # 6,477,875



1. Utility patent #6,477,875.

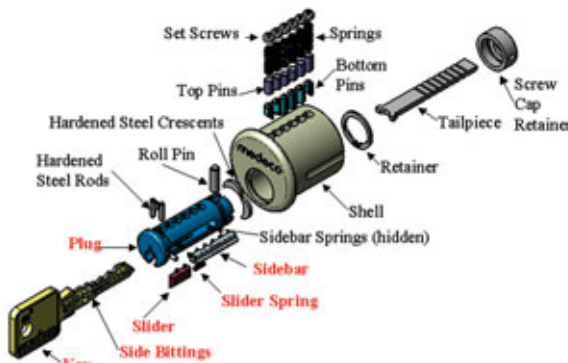
Trademark

- ▲ Letter "m" in 2 Directions
- ▲ Pending Trademark
- ▲ Will be Registered in Approximately 6 Months
- ▲ Word Written as Medeco to the Third Power
- ▲ Format-Font-Superscript



2. There will be two (pending) trademarked identifiers.

Exploded View

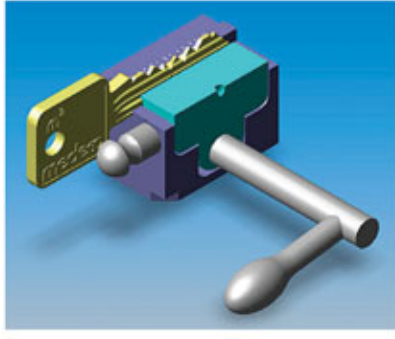


3. An exploded view of the new version lock.

Medeco³ Compatibility

4. A modified jaw for the key machine will be required.

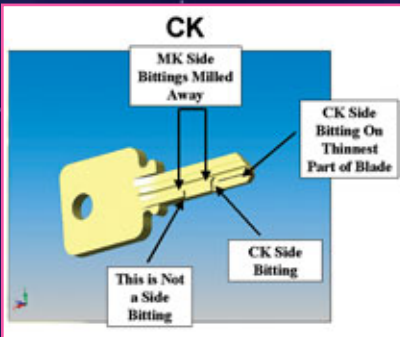
- /// Uses Biaxial or Original Pins
- /// Cut Depths & Spacing are Same
- /// Use Existing Key Machine With Modified Jaw



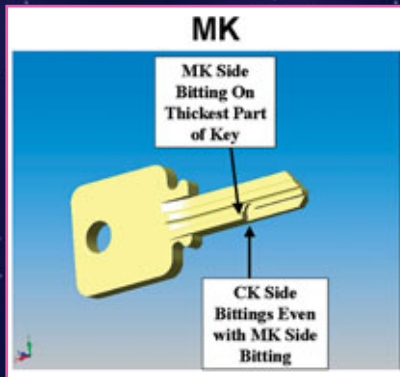
generation 3 keys have a side milling that is factory cut. Each style key will be cut with the same depth, space and angles as before, except a modified jaw for the key machine will be required. (See figure 4.)

An additional component in the plug called a "slider" will be moved by the milled cuts on the side of Medeco generation 3 keys. There will be the potential for master keying in relation to the slider and the side millings. Although not physically the same, the concept will be similar in principle to the concept of sectional, or multiplex keys when it comes to key groups and master keying. The depth of penetration for the millings in the key blade will determine if they are change key or master key side bittings.

The change key side bittings are placed on the thinnest part of the key blade. (See figure 5.) When a change key bitting is used, the master key side bittings will be milled back far enough so that a change key never operates a master key slider. Generation 3 Medeco key blanks won't leave the factory without the millings already cut. Locksmiths are not to cut the side bittings.

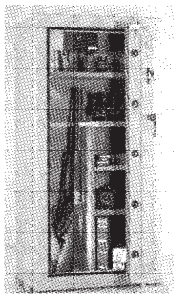


5. The change key side bittings.

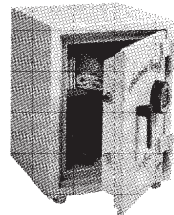


6. The master key side bittings.

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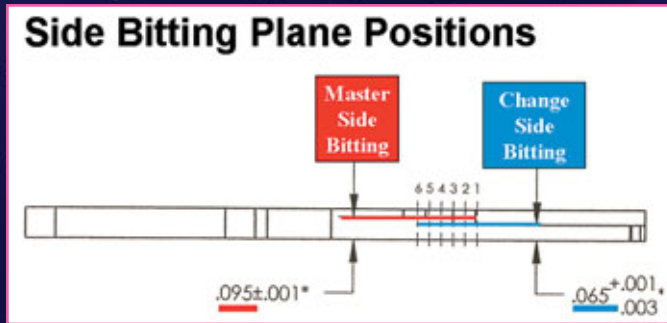
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The master key side bittings are placed on the thickest part of the key blade. (See figure 6.) On a master key, the change key side bittings are milled back so they are even with the master key side bitting. The

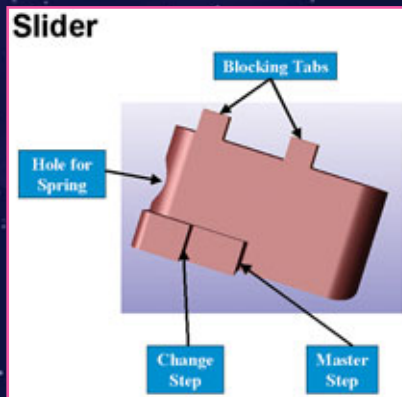
depth of penetration into the key blade will vary between change and master key side bittings, but the space positions will be the same. There are six possible spaces or positions for side bittings. (See figure

7.) The view shown is the bottom surface of the key blade that touches or points to the bottom of the keyway (in the lock plug). With the key blade lying flat, the master bitting is .095 inch thick and the change key bitting is .065 inch thick.

7. There are six possible positions for side bittings.



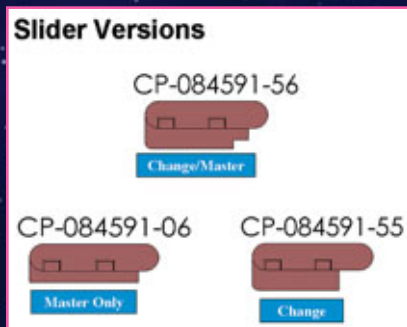
8. The key throat length has been lengthened.



9. The slider is the foundation of the new patent.

The Slider

The slider is the foundation of the new patent. A combination change/master slider will have two steps. (See figure 9.) The slider installs at the bottom end of the plug, and it interacts between the key side bittings and the sidebar. The steps extend part way into the keyway and are picked up and moved by either a master or change key side bitting. The blocking tabs interfere with the sidebar if no key is inserted or if the side bittings on a key do not move the slider to the proper unlocking position. The slider is made out of hardened stainless steel primarily for strength rather than drill resistance. Other hardened inserts already exist for drill resistance.

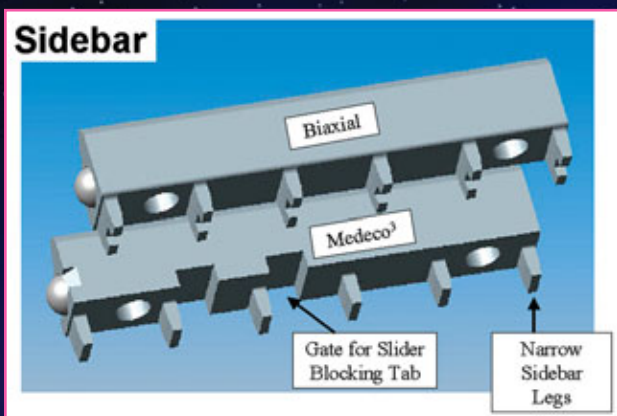


10. Sliders will come in three different versions.



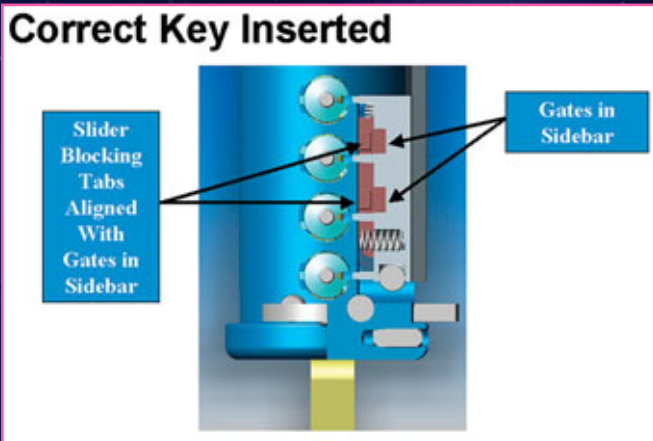
11. Virtually all of the component changes are contained within the plug.

Sliders will come in three different versions. (See figure 10.) At the top is the change/master version, as mentioned earlier. It has two steps. The step closest to the slider body, contacts the master key side bittings and the step further from the slider body contacts the change key side bittings. A change key or a master key can operate this version slider. A master only slider (bottom left) and change slider (bottom right) each has just one step. The change step is wider and the master step is narrower.



12. The sidebar has been redesigned to interact with the blocking tabs of the slider.

I won't go any deeper into the operation of the slider in relation to master keying, as most locksmiths who will service a Medeco3 cylinder will not have to conduct master keying



13. A matched slider and side cuts will align the blocking tabs.



14. A bottom view of the cutaway cylinder.

at that level. From a servicing perspective, the new Medeco3 features will be mostly transparent. I mean that in the sense that you will have to account for their existence, but your keys will already be milled, and if you have the appropriate slider installed you would service the balance of the cylinder the way you would do an earlier generation Medeco product.

Backward Compatibility

Medeco has become more locksmith friendly in their transition from generation 2 (Biaxial) to generation 3 (Medeco3) than they

had been with the transition from generation 1 (original Medeco) to generation 2 (Biaxial). First, the introduction of Biaxial brought a whole new learning curve. There were new servicing rules and new terminology. Then, virtually none of the "original" service kit could be used to service Biaxial cylinders, and except for interchangeable cores you had to replace entire lock cylinders to maintain key control for your customers.

Medeco3 is so much better a transition. Virtually all of the component changes from generation

2 to generation 3 are contained within the plug. (See figure 11.) The overall size and shape of the plug is unchanged from the normal Biaxial. A pocket has been machined to accept the slider and the sidebar has been redesigned to interact with the blocking tabs of the slider. (See figure 12.) When the correct key is inserted into a lock cylinder, the regular angled cuts will bring pins to the shear line and align the slots with the legs of the sidebar. A matched slider and side cuts will align the blocking tabs of the slider with the gates in the sidebar. (See figure 13.) Since there will be Biaxial and original version Medeco designs

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in the Medeco3 system, you just use your existing pin kits that are compatible to those designs.


If you have earlier version lock cylinders (that are not unduly worn) you have the option to upgrade a cylinder to Medeco3 by swapping out plugs. The shell of the lock cylinder will be good as is, but you will not be able to use early version sidebars. The slider and new broaching patterns will obviously eliminate old keys and key blanks. You may need a key vise adapter to cut keys, but your pinning rules will be the same as original Medeco or Biaxial, depending on what version Medeco3 locks you are using. Also, there will be no general circulation or open keyways. All Medeco3 keys will be restricted duplication only.

Mechanical Operation

I used a cutaway cylinder to demonstrate the mechanical operation and interaction between the key side bittings and the slider. A bottom view of the cutaway cylinder has an opening that reveals the slider in an undisturbed state. (See figure 14.) The spring of the slider keeps it moved as far forward in the

keyway as possible. In this state, the blocking tabs of the slider will obstruct the sidebar. A master key has the change key side bittings milled back so they are even with the master key side bitting. (See figure 15.) When that key is fully inserted the master key side bitting engages the (narrower) master step to position the slider. (See figure 16.) A change key has the master key side bitting milled back far enough that it never engages a master step. (See figure 17.) The change key side bitting is on the narrowest part of the key. With the change key inserted, the change key side bitting engages the (wider) change step to position the slider. (See figure 18.) A view inside a cutaway cylinder shows the plug rotating and the blocking tabs of the slider aligned with the sidebar gates. (See figure 19.)

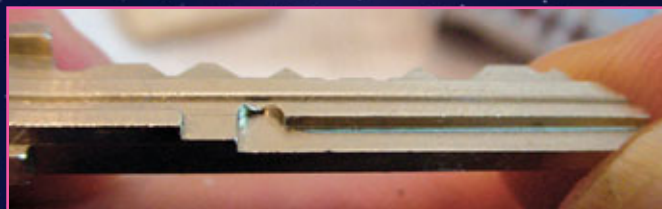
I give Medeco high marks on the thought put into the new Medeco3 locks and keys. I have always thought that what ended up as generation 2 (Biaxial) could have been better thought out, but I think they made up for it in the newest version of Medeco locks. I tried to go into reasonable detail about the operation of the slider without getting carried away, as the specifics won't affect that many locksmiths who will end up servicing the cylinders. I don't think that Medeco3 should be anything to be afraid of, and should prove to be a welcomed patented upgrade from Medeco.

For more information contact: Medeco Security Locks Inc., P.O. Box 3075, Salem, VA 24153. Phone: 800-839-3157, 540-380-5000; Fax: 540-380-1793; Web: www.medeco.com. Circle 272 on Rapid Reply. 

15. A master key has the change key side bittings milled back.



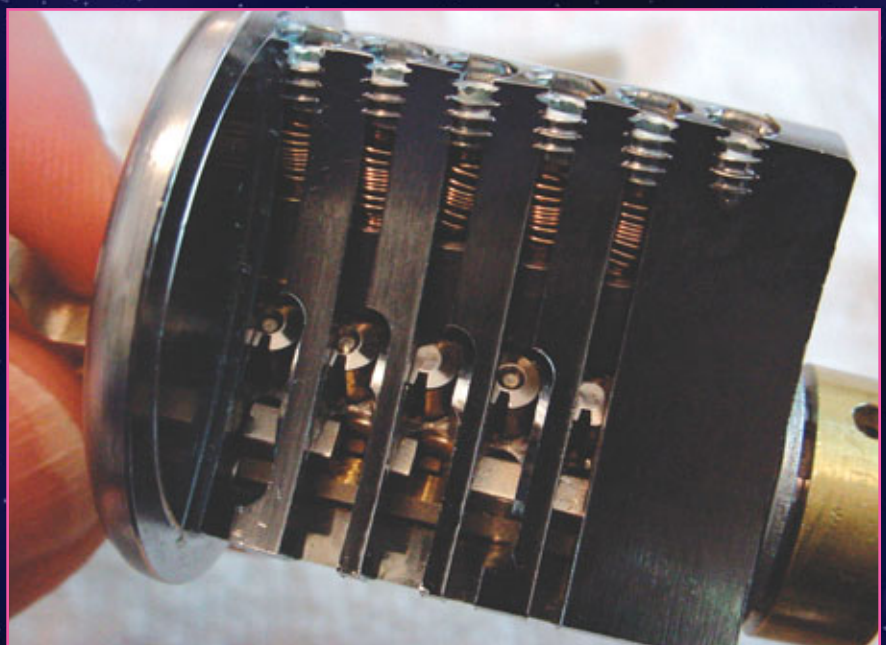
16. The master key side bitting engages the master step to position the slider.



17. The master key side bitting never engages a master step.



18. The change key side bitting engages the change step to position the slider.



19. A view inside a cutaway cylinder.

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SECURITRON HAS IT COVERED



by
**Jake
Jakubowski**

As many of you are aware, Securitron makes a variety of innovative electronic access control and egress control hardware. (See *photograph 1.*) And, in my opinion, Securitron is right on the cutting edge of that technology. From their sleek new product packaging (see *photograph 2*) to their MAGNACARE®, Lifetime Warranty (see *photograph 3*), Securitron is talking quality.



Photograph 1.

I've been selling, installing and writing about Securitron products for nearly as long as I've been writing for *The National Locksmith!* During that time, I've been beating a drum that says you really need to take a look at Securitron's product line if you are even thinking about getting into Electronic Access Control.

And, if you've been paying attention, you'll know that I've never had anything but good things to say about them. All because of what I perceive to be superior product quality backed up by a superlative lifetime warranty, a warranty that guarantees no questions,

no hassles and immediate (Next Day Air) product replacement.

What does MAGNACARE® mean to you? It means that if you find a Securitron product (produced after 1998) that is malfunctioning, is broken, has been vandalized or has been hammered to a pulp, Securitron will replace it! It doesn't matter who installed it, who bought it, who delivered it, who owns the building it's located on or whether it has been transferred from its original location, Securitron will replace it. Which further means, you can confidently tell a prospective customer how you can help them reboot their Securitron MagLock or UNLATCH-IT without them having to buy new product!

Aside from the no-frills, no surprises, no gimmicks warranty, the Securitron products that I have used over the years have been nothing but practical, easy-to-install electronic access. In other words, there should be no apprehensions about installing, wiring and programming these products. Securitron has taken the guesswork, the hassles, and the fear out of access control, and allowed the installer to take charge of the installation through their easy-to-follow installation manual.



Photograph 2.



Photograph 3.

I can personally vouch for the great technical support, the ease of product installation and the effectiveness of the MagnaCare warranty that Securitron offers. Why? Because the photographs that accompany this article (except for three) weren't taken in a studio and I didn't grab a bunch of brochures and take the information out of them and plug it into this article. From

churches, to pharmacies, to pizza parlors and medical facilities, my son Kelly and I have installed the Securitron electronic access control products shown here.

This article and the accompanying photographs document some of those installations in real-time, for "real" customers. So come along and see how you can vigorously shake the shekel tree by installing Securitron.



4. This door is the employee entrance to a church. The hole you see in the frame has been cut with a Dremel tool to make it easier to drill through the concrete and penetrate the interior of the frame prior to mounting a Securitron DK-26.



5. The arrow points to the entry hole in the highlighted area of the frame. This hole is for the cable of the DK-26 Touch Pad to enter the building. Note the mounting plate for the Wire Mold junction box.



6. Here the DK-26 is mounted to the outside of the frame with the wires going through the frame to the inside of the building.

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7. The cable enters through the frame and into a Wire Mold junction box that has been secured to the mounting plate.



8. The Securitron request to exit switch (SEPB2) is mounted to the Wire Mold junction box and allows for free egress from the church by the people that did not have the combination to the touch pad.

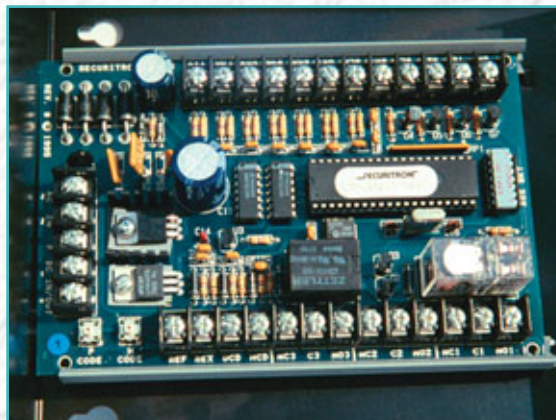


9. This is a second SEPB2 that was located just to the right of the church secretary's desk to allow the secretary to admit people that did not have the combination to the touch pad.

10. This is Securitron's model 62 MAG lock with 1200 pounds of holding force.

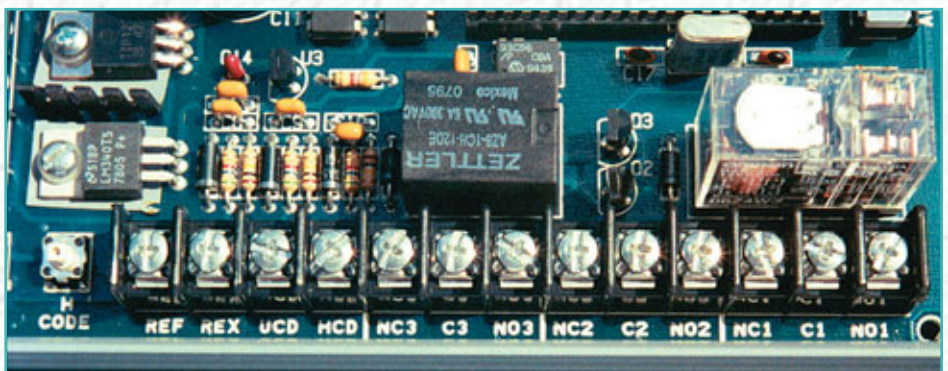


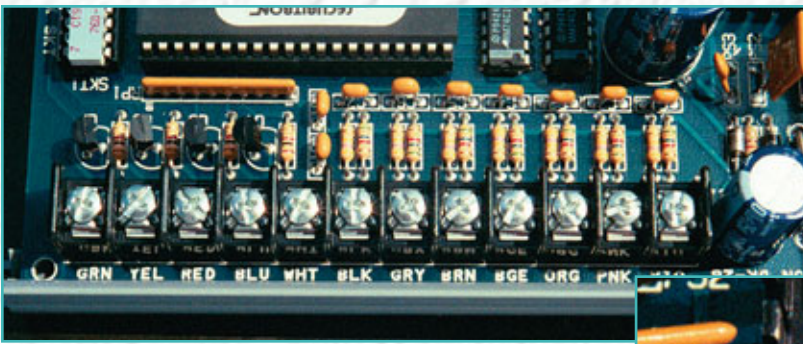
11. The model PSP-24 transformer for the DK-26 and the MAG lock.



12. Here's the brain of the DK-26, the CPU board. This is where it all happens. This is where the programming is recognized and the commands to release whatever locking devices are controlled.

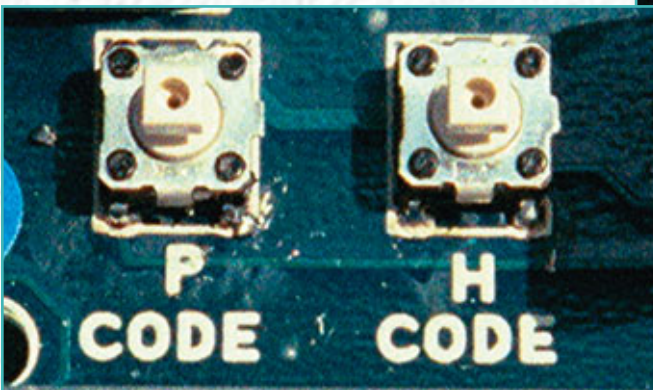
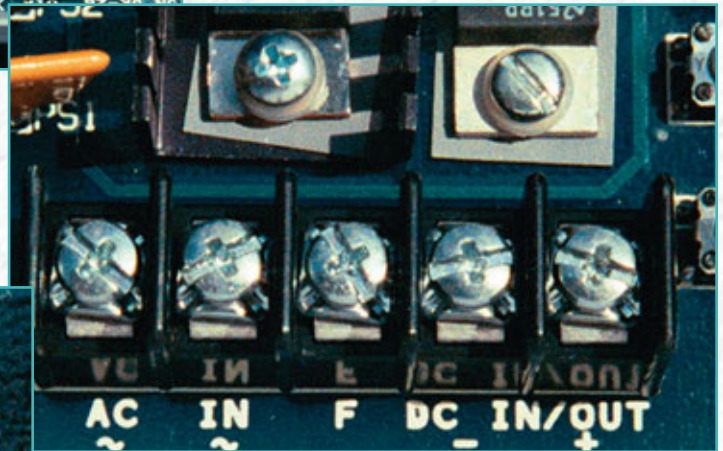
13. This side of the board is where various request to exit functions or touch bar functions are wired into the CPU. This is also where fail-safe and fail secure wiring is accomplished.





14. On this side of the board the touch pad is wired in. The contact colors are clearly printed on the board making this one very easy unit to wire properly. Simply place each wire in its respective color designated slot and tighten the screw.

15. This end of the board is where the incoming power is connected. With clear installation instruction and clearly marked contacts, wiring a DK-26 is about as simple as it can get. No muss, no fuss, no strain or aggravation.



16. The DK-26, after the initial programming of the unit, can have users added and deleted at the touch pad. The "P" code and the "H" code buttons are the buttons that allow you to delete previous master codes and touchpad programming codes when it is necessary. The DK-26 can accommodate up to 99 individual users.

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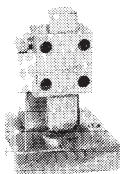
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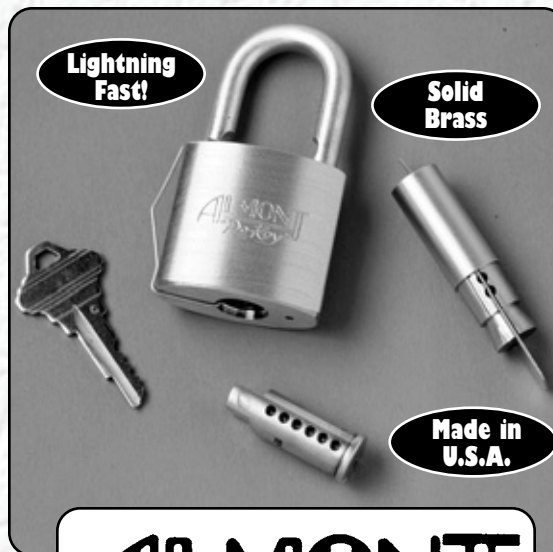
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No. 72	Yale "GB"
No. 8	Weiser
No. 9	Weslock
No.10	Sargent "LA"



17. The white arrow points to the tab (there are four) that slips over the circuit board to hold the board in place in the can, or housing, which attaches to the wall or ceiling.



18. The DK-26, weatherproof touchpad with its 16-foot, 10 conductor, color-coded cable. This cable wires into the CPU board. Simply match the color-coded wire to the color designated at the terminals, as shown in photograph 14.



19. This is a Model 32 strike plate on a narrow-stile, store front door. The red arrow points to an obvious gap between the through bolt and the strike plate. The strike plate needs to flex so that when the door closes, the strike plate automatically aligns with the magnet to provide the maximum amount of security to the door. NOTE: The Model 32 is used as a traffic control lock and not a security lock. If the possibility of aggressive attack exists, then the lock used should be either Model 82 (1800 pounds of force) or a Model 62 (1200 pounds of force). Of course, on a glass storefront door, there would be little reason to have anything more secure than a Model 32 (600 pounds of force) since the glass could be broken easier than the lock could be forced open.

20. The Model 32 magnet mounted to the bottom of the header rail on a storefront door. Securitron provides all the necessary mounting hardware needed

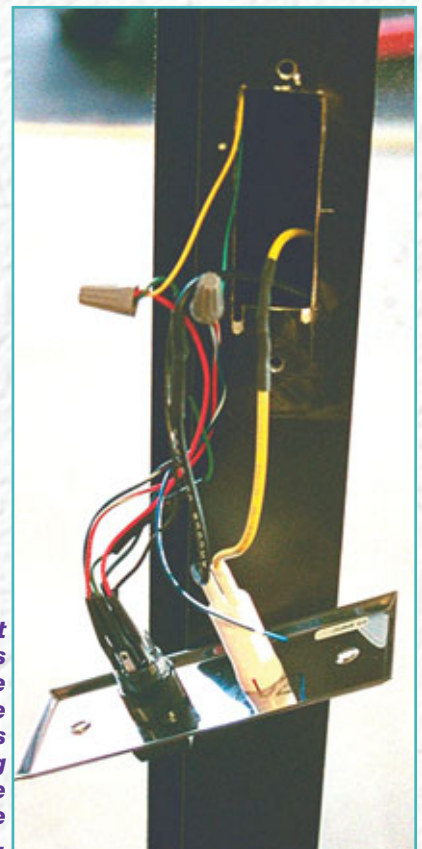


to install each of their products. All you need to supply are the tools and the ability and the desire to shake the shekel tree.



21. The switch shown here is Securitron's SEPB3. This switch is mounted behind the counter of the customer entrance area of a pizza delivery store. The switch is used to "buzz" folks into the store after dark. The toggle switch that you see over the pushbutton on the SEPB3 is the on/off switch for the Maglock. When the toggle is in the off position, simply pulling on the outside handle will open the door. Once the switch is in the on position, the Maglock activates and customers have to be "buzzed" in.

22. This is a SEPB3 narrow stile exit switch being installed on the driver's door of the same store. Note that the cutout is in the vertical rail of the door proper. Mounting the switch this way saves the necessity of running Wire Mold or Panduit and allows the wires to be hidden from view and be safe from tampering.



Continued on page 82

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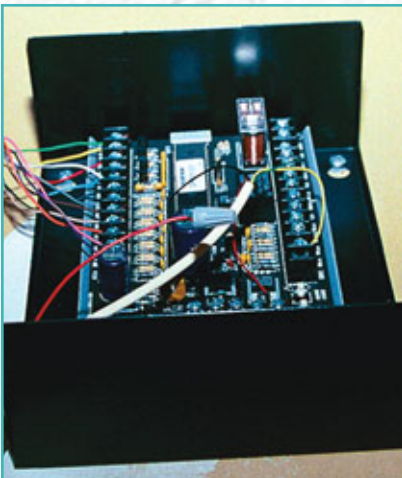
23. In this pizza delivery store installation, I used a SEBPS-24-2A battery backup unit. I ran my normal AC power source to this box (there are no batteries in this one, yet) and then run to the CPU board off the DC leg in the Power Supply. The batteries are there to provide operating power in the event of a power failure since this installation is a fail-safe install. That is, when the power goes off, the locks automatically release. Since that could pose a security risk during operating hours, I used the extra power supply.



25. This is the finished installation on the driver's door. The DK-26 touch pad is installed. Behind the touch pad is the internal exit switch. Note the KEYMARK Mortise cylinder for securing the door after closing. The customer pickup area is to the left of this door. The AR lock has a dummy cylinder on the outside and a thumb-turn on the inside for after-hours security.



26. The panic device on the door is Securitron's TSB. (Touch Sense Bar.) This bar is used in conjunction with a Maglock and, in this case, a DK-26. The TSB operates by recognizing a touch (even through light clothing) and releases the Maglock, permitting egress from the building. This unit was installed on the kitchen door of a restaurant.



24. This is a shot of the CPU board and it's housing just prior to buttoning it up.



The UNLATCH has a 10' cable that hooks into the DK-26 or DK-11 touch pads.

27. The UNLATCH (SEMUNL-24) is a rather unusual product, in that it actually manipulates a locks latch of unlock, or "unlatch" that lock. It works in conjunction with various Securitron touchpads, or keypads and will operate with most

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28. Here is an ILCO L1000, which happens to be on a hospital pharmacy's door. The request was to provide a way to allow entrance by the nursing supervisors on the 2nd and 3rd shifts that needed to pick up medications, without using the L1000. The code for the L1000 was for the benefit of the pharmacy personnel only. Also, for security reasons, an audit trail of all entries using a keypad had to be maintained. I chose the UNLATCH and used it in conjunction with the DK-26 Expansion Board, which would provide audit capabilities.



29. This, of course is the standard ANSI strike for the L1000.



30. The ANSI strike removed.



31. Note that the wall construction is metal studs with wallboard over them. The arrow points to the holes that I drilled to remove much of the stud material and then, I simply used a rotary cutter to finish the cutout and remove the wallboard.



32. Securitron's UNLATCH being placed in the expanded strike opening. The wires, of course, have already been run up the frame and into the Panduit Junction Box.

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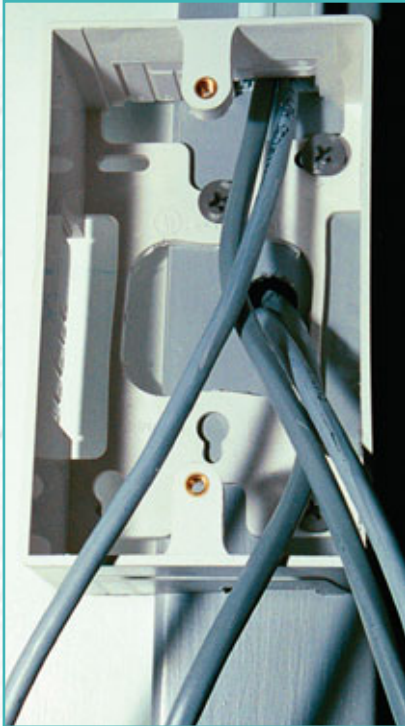
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33. The DK-26-EXB touch pad being installed on the door. Again, the wires are run through the frame and into a junction box inside the doorway.



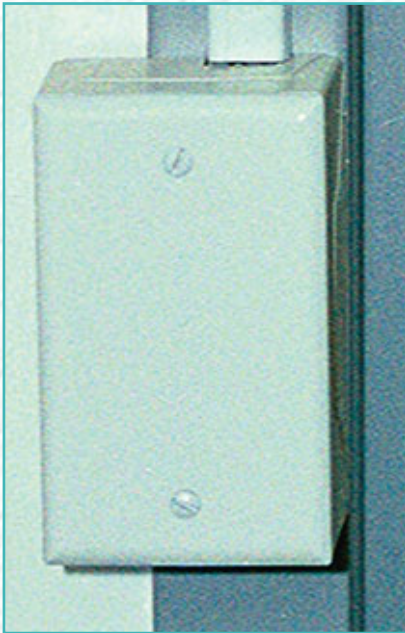
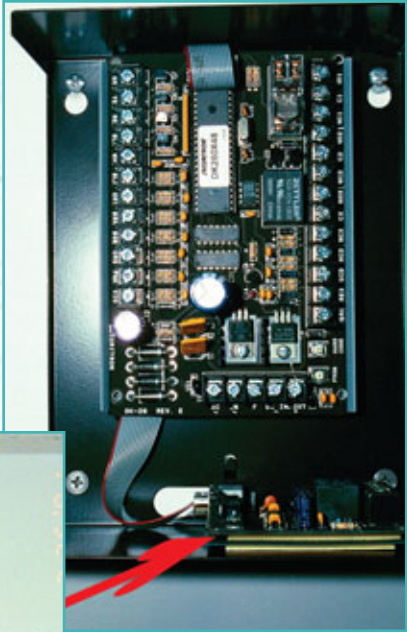
34. These are the cables from the UNLATCH and the DK-26 touch pad entering the Panduit junction box and then feeding up the Panduit run to the DK-26 EXB CPU board and the battery back up unit which are mounted on the wall over the doorway.



35. The cables are fed up through the junction box and secured in the snap covered plastic conduit. The Panduit keeps the wiring secure and away from curious fingers.

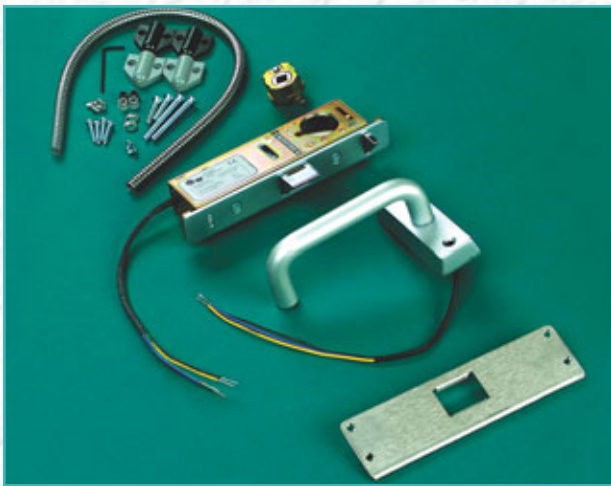


36. The DK-26 EXB board, like the regular DK-26 CPU board, is the brains of the installation. However, with the EXB there is an extra board in the system which permits the addition of a printer and automatically audits and prints a record of all users, along with the dates and times of their entries or attempted entries. (See red arrow.)



37. The DK-26 EXB is on the left and the BPS is on the right. Note, the red arrow points to the Panduit that brings the power wiring in from a source in the ceiling, to the BPS and then to the CPU board, the touch pad and the UNLATCH.

38. This is the Panduit Junction box and the Panduit conduit with all the caps secured and the screws in place. Both the Panduit and Wire Mold products add an excellent finished look to the installation. I prefer the Panduit for most office applications and Wire Mold for industrial and most commercial applications.



Photograph 39.

There you have several Securitron stories. I didn't go into depth on each installation because I wanted to give you a general overview of Securitron's mainstay products. Yet there are a lot of products that I didn't cover. But those are grist for other mills and fodder for other stories. You can rest assured though, that the products that I did not mention are every bit as user friendly and quality oriented as any of the products in this article.




Photograph 40.

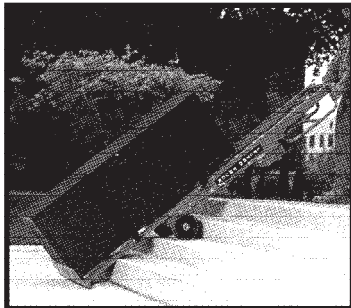
You can also rest assured that Securitron is not resting on their laurels or past successes. There are new lines of cutting edge products that are making their way down the development pipeline. Two of them that I will mention are the Mortise Glass Lock or MGL. This is an electronically operated latch for narrow stile, store front doors. (See photograph 39.)

The other product is Securitron's new SABLE. (See photograph 40.) This is a stand alone, electro-mechanical

lock that has the same touch pad technology as the DK-26, mounted around a Yale cylindrical lever set!

For more information on Securitron and Securitron products and their MAGNACARE Lifetime Warranty, call Securitron at 1-800-526-5625 (1-800-MAG-LOCK). Or, visit them at their web site: <http://www.securitron.com>. If you call them, tell them Jake told you to call, you won't be sorry you did! Circle 274 on Rapid Reply. 

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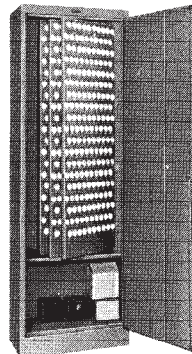
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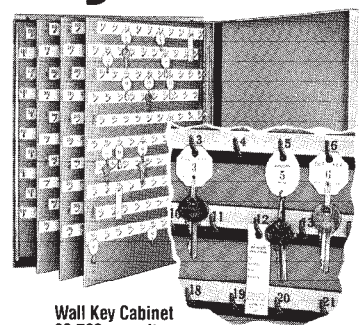
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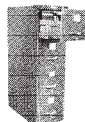
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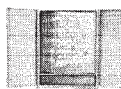


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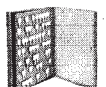
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InstaCode & Pocket InstaCode

by Sal Dulcamaro, CML

Depending on what areas that you specialize in locksmithing, codes can be a big part of how you fit keys. Auto, padlock and cabinet locks are probably the most common applications that use codes a lot. InstaCode is just one of a few computerized code programs that is available to locksmiths. It has been over four years since it was first introduced as the new kid on the block, which had some impressive features for a rookie.

Over the last few years, it has been upgraded and refined in its annual update edition. This year's version is no exception. The 2003 version of InstaCode introduces a couple of new features. Also, in a separate incarnation, Pocket InstaCode has been introduced for use with the compact computers generally known as Pocket PC's. I will cover the standard version first and then contrast features with the new Pocket InstaCode.

I will not go into extreme detail with all the functions and features of InstaCode due to space limitations. It does much more than codes and bittings, and the only way to truly appreciate what InstaCode is and can do, you really have to see it in action. I will try to cover a general overview for those locksmiths who are not at all familiar with the program. I will also explain the new features for current or past users of InstaCode who haven't ordered the 2003 upgrade yet.

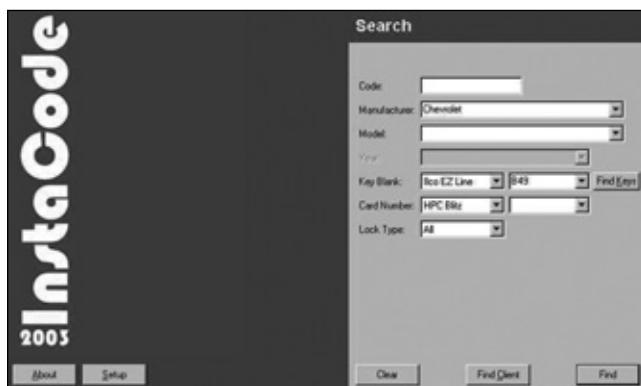


Figure 1.

Figure 1, shows a screen capture image of the opening screen for InstaCode. Actually, if you use the password option, a prior screen image will request a

password before you can use the program. If others have access to the computer, you may want to exercise that option. Separate from access to the codes, there may be client information stored that you may not want someone else to get. The opening screen seems to ask for a lot of information, not the least being the code number itself. InstaCode doesn't require all the fields on the screen to be filled out. They are there to give you a more specific or precise search if you wish to use them. I will show a number of different ways to search.

In the first screen, I'm doing a somewhat general search. I have no code number input. Under "Manufacturer" I have input "Chevrolet." This will obviously be an auto lock code search. There is a line for "Model" which I am not using yet, but will shortly. The field for "Year" is not accessible until a car model is chosen. That too will be needed for accessing some of the new features. Under "Key Blank" you can choose a brand of key blank and to its right you can pick a specific key blank number. In this case, I've chosen "Ico EZ Line" for the brand and "B49" for the key number. Below that line, under the category of "Card Number," I have chosen "HPC Blitz." InstaCode has the capability of printing code machine cards for machines like the HPC 1200CM™ or punch machine, and was the first code program offering such a feature. You can choose what numbering system you want to use, when or if you print them up.

The code card feature can be very valuable, especially for new car code series if you haven't yet purchased the new card (or if they are not yet available). It can also be useful for older obscure codes where you don't deal with a lock enough to buy the code card, but you can print up a temporary card for your immediate use. If you know what card number should apply, you can input it in the line immediately to the right. The last field is "Lock Type," and it will allow you to filter out codes from lock types that don't apply. When you choose "All," it will search every possible code.

The individual lock categories that you can select are: Vehicle, General, Padlock, Motorcycle and Combination. That filter can be very useful for avoiding some unnecessary confusion. I recently was trying to track

Continued on page 88

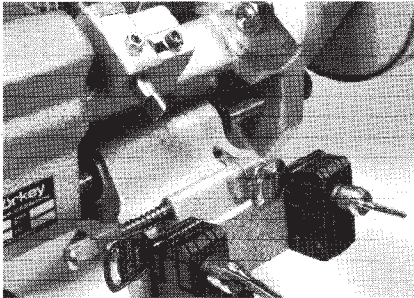
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Of course, it can't be done.

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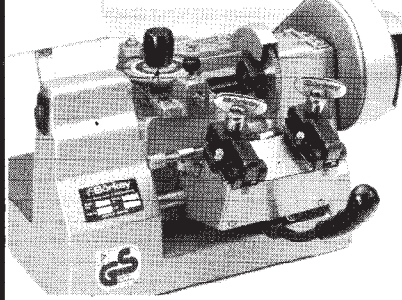
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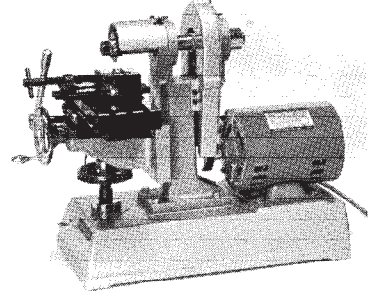
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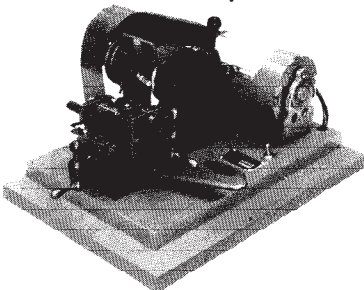
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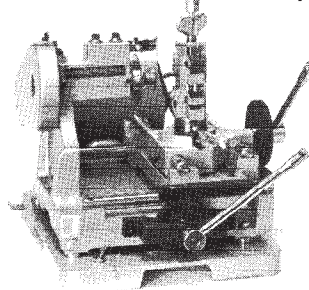
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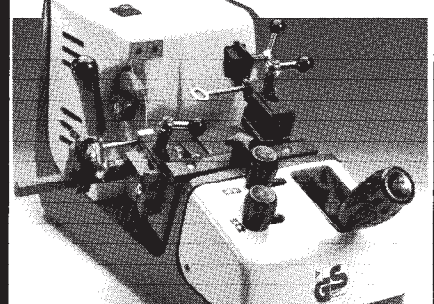
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down a Honda motorcycle code. If I had just chosen the Honda brand, I would have gotten a displayed list of Honda automobiles and motorcycles. By limiting my search to Motorcycles, I didn't have to scroll through the Honda car codes.



Figure 2.

After inputting all the information I want, I clicked on the "Find" box in the bottom right hand corner of the screen. **Figure 2**, shows the code series that fit my request. What I had requested was all Chevrolet codes that use the GM "B" keyway secondary key (Ilco EZ #B49). InstaCode found four series. They were as follows: 0X00-9X99, 0Y00-9Y99, 0C00-9C99 and 0D00-9D99. Vertically on the right side of the screen is a key blank comparison list, listing more key blank brands than I've known. I have highlighted the third series: 0C00-9C99.



Figure 3.

By clicking on "Open," I get the screen image in **figure 3**. There is a lot of data on the screen. I hadn't chosen a specific code number, so InstaCode automatically went to the first code number in the requested code series. That first code number is: 0C00. Among the information provided is the key biting of: 354424. There is also space and depth data, along with key blank comparisons and code machine information. Beside the key blank numbers is a graphic display of the key blank with a keyway profile. There is a box labeled "Show Cut Key..." which will show a graphic image of the cut key when you click on it.

If you organize your key display board, you can input "Hook" and "Location" information so that the next time that key is displayed, it will tell you where you keep it on your key display board. In the bottom right hand corner,

there is a good sized area where it says "Enter your notes here..." You can leave notes for yourself so that if there is some problem, or something you should remember when you call up the code series in the future, InstaCode will remind you. Vertically on the left side of the screen, there are four boxes labeled: "General," "Print Code," "Print Series" and "Save Client Info." On this screen "General" is not accessible, but the others are. If I had chosen a specific car, there would be more choices. I will show you that now.

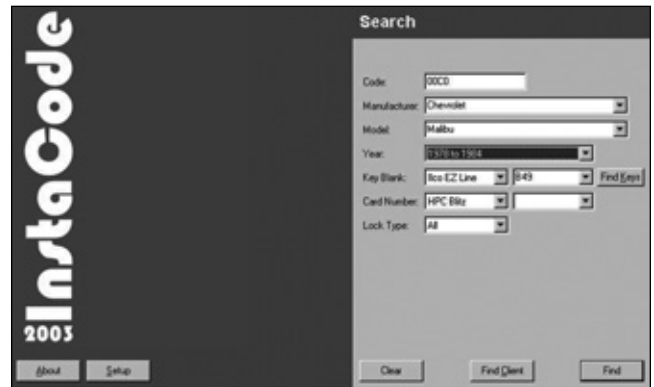


Figure 4.

I will slightly alter my search but input more information from the start. **Figure 4**, looks similar to **figure 1**, but I have added the code number. There is a slight error there on my part. I did the screen capture with the code number 00C0 displayed, but switched it to 0C00 before I did the code search, so just imagine that the code displayed is 0C00. I have also selected a car model: "Malibu" and a year: "1978 to 1984." This time when I click



Figure 5.

"Find," I get the screen in **figure 5**. There is now only one code series listed. When I click "Open" for the code series with car model and year information, I get the screen in **figure 3**. At first glance, it might look identical to **figure 3**. If you look at the vertical line of boxes on the left side of the screen, you'll see there are some of the same options but also many new ones. These are your choices: "General," "ASP Catalog," "Transponder," "Opening Instructions," "Notes," "Print Code," "Print Series" and "Save Client Info." Only two options are inaccessible: "Transponder" and "Notes."

Among the choices, "General" is just what is already on display. When I clicked on "ASP Catalog," I got the screen in **figure 7**. Well, actually I had to click on some of the



Figure 6.



Figure 7.

folders to get these details, but this gives ASP lock and service kit data. If you need a door or trunk lock, you can click and find the part number. Some cars will have more information in this section than others, depending what parts are available from ASP.

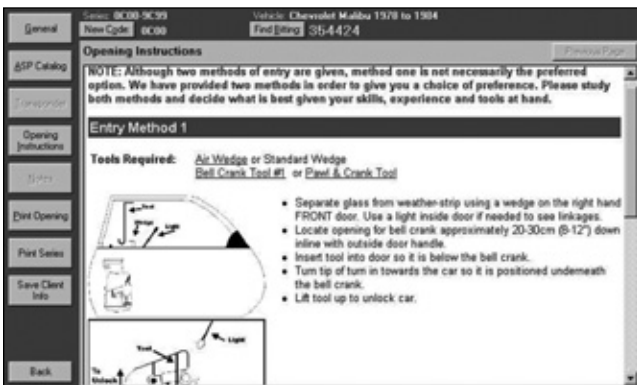



Figure 8.

There is no "Transponder" information because this is an older car code series. Like the "ASP Catalog" option, the "Opening Instructions" option is also new. By clicking there, I get the screen in figure 8. Here you see a graphic depiction of an opening procedure and step-by-step instructions. There is actually an "Entry Method 2" shown also, but you must scroll down the screen to see it.

The "Opening Instructions" feature is both new and interesting, but at this point not yet complete. I wouldn't throw away my car opening books just yet. While many cars have the opening information included, quite a few don't. You don't know if it is available until you get to that screen and see if you can click there or not. It is a good




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start though. It is important to note that InstaCode 2003 uses your internet connection to regularly pull free live updates into the program throughout the year. Newcar openings are added periodically as are codes. This means you no longer have to wait for one annual update. You are updating constantly.

The remaining three options are the same ones that were also available in *figure 3*. The “Print Code” option allows you a hard copy of the specific code that you looked for. The page that comes from your printer is not exactly the same image you seen on your computer screen, but most of the data is the same. Most of the other code programs allow you to do that. Where InstaCode stands out, though, is the “Print Series” option. If you click on that option, you will get a display of the entire code series on your screen. You can move forward and back through the pages to find what you want. If you select to print, you can get an actual hard copy of that code series. I don’t know of any other computerized codes that will allow you to do that. With InstaCode you get the best of both worlds. You have the speed and efficiency of computerized codes, but you have the option of hard a copy like your old printed codes. You only print them when you want or need them. If they get dirty or greasy, you can always print another copy.

The “Save Client Info” option is an interesting feature. If you have a customer who is always losing keys or getting locked out, you can save key information and keep it in a password protected file. When the customer calls you, you can have them give you a password and look up their file. Now I’ve finished with the options on the left hand side of the screen, but there are a few other interesting options with InstaCode. These features are code search related and not new to the 2003 edition of InstaCode.

Back to *figure 6*, you will see boxes to the left of the currently listed key code and key bitting. If you just want to get another code in the same series, click on “New Code:” You can’t get to a totally new code series with that feature. You will instead have to use the “Back” option until you can select a new code series. The “Find Bitting:” option is very useful. When you click on it, you get a

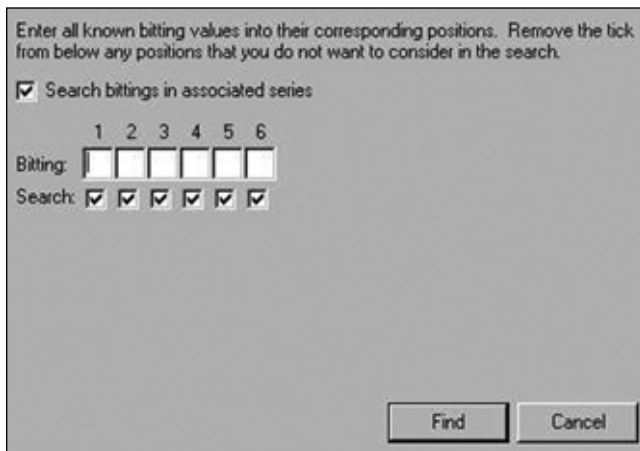


Figure 9.

screen like that in *figure 9*. You can insert all the bitting digits or leave some blank. I’ll show both situations. In *figure 10*, I have all six digits entered. The bitting entered is: 433112. When I click “Find,” it searches a code series or (in some cases) a group of related code series. My results are in *figure 11*. For this GM secondary key bitting (with the B keyway), there are three code matches: 2C22, 7X25 and 22X2. By highlighting 2C22 and clicking

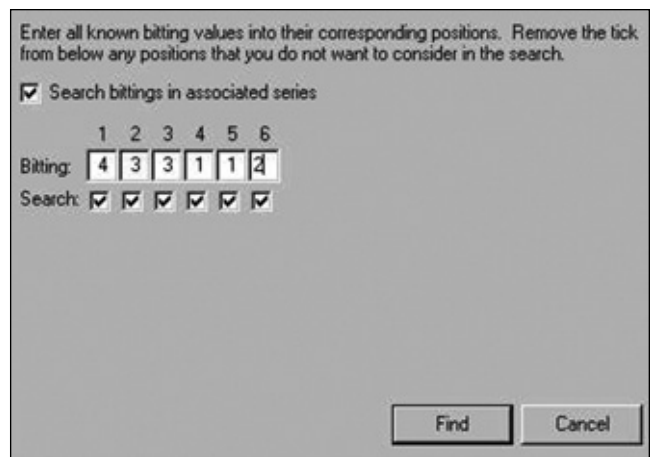


Figure 10.

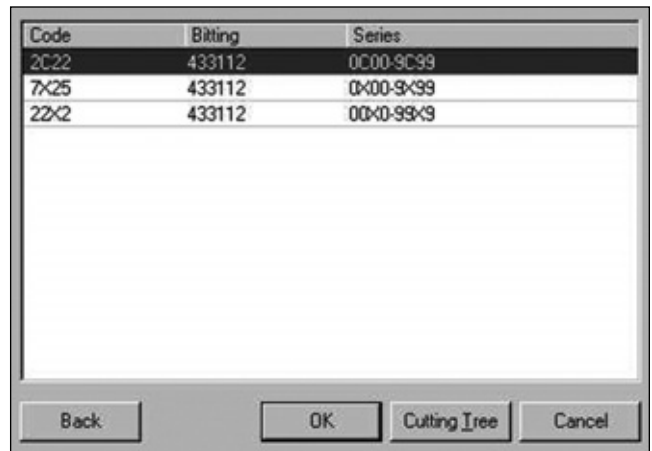


Figure 11.



Figure 12.

“OK,” I get the screen in *figure 12*, which gives me all pertinent key cutting information. I use this feature a lot when I fit a car key manually, so I can give the customer a code number for future use. It can help boost your image with your customers to see you are looking out for their interests, and in the future they can get a key by code at a much lower cost.

The “Find Bitting:” feature can also be very useful for key fitting when you have only partial key information. In *figure 13*, I have input only the last four digits. When I click on “Find” this time, I get every code that has those last four digits in common but could be different in the first two digits that were left blank. If you could scroll down the full list that was displayed in *figure 14*, you’d see that a total of 24 bittings were found. Because some of

Enter all known biting values into their corresponding positions. Remove the tick from below any positions that you do not want to consider in the search.

Search bittings in associated series

1 2 3 4 5 6

Bitting: 3 1 1 2

Search:

Find Cancel

Figure 13.

Code	Bitting	Series
0C49	543112	0C00-9C99
0C95	123112	0C00-9C99
1C62	343112	0C00-9C99
2C22	433112	0C00-9C99
2C47	233112	0C00-9C99
2C94	213112	0C00-9C99
8C19	453112	0C00-9C99
6D72	323112	0D00-9D99
0X15	123112	0X00-9X99
6X94	323112	0X00-9X99
7X25	433112	0X00-9X99
9X40	233112	0X00-9X99
4Y02	343112	0Y00-9Y99

Back OK Cutting Tree Cancel

Figure 14.

the bittings are identical, but in a different related code series, I found that there were only 8 different bittings. If you click on "Cutting Tree," you get the screen shown in figure 15. Over two separate keys, the program creates a progression chart to recut the same key repeatedly until the proper pattern is found.

General Motors
Buckeye
Coke
Dartis
Division Lock
ESP
Easy Cut
Sica

Figure 15.

The more blank spaces you leave, the bigger the progression chart will be. For some car locks the results will be amazing and you can eliminate large groups of theoretical key bittings that are never used in a code series. In other cases, the list was too long to be practical. Although auto codes are among the most important codes for many locksmiths, InstaCode does the others just as well. I'm emphasizing auto codes here because portability becomes more critical for auto code work than many other types, and I will now do a comparison with Pocket InstaCode.

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Pocket InstaCode

Not all features in InstaCode 2003 will be found in Pocket InstaCode, but most of them will. I will go into less detail in this section of the article than in the first part, because I will be doing almost the same operations but within the confines of Pocket InstaCode. This Pocket PC thing was new to me, and using the program was awkward for me at first. The problem wasn't the program. I just had to learn to navigate my way around a Pocket PC. There are certain minimum system requirements before you can even install the program on your Pocket PC. You must have 64 MB RAM and be running "Microsoft Pocket PC2000" or later. The glass of the display screen on my Pocket PC caused a bit of glare, so the images might be a bit hazy.

Figure 16, shows the equivalent opening screen to the one in **figure 1**. The screen size of a Pocket PC is extremely small compared to a regular computer screen. As a consequence, even



Figure 16.

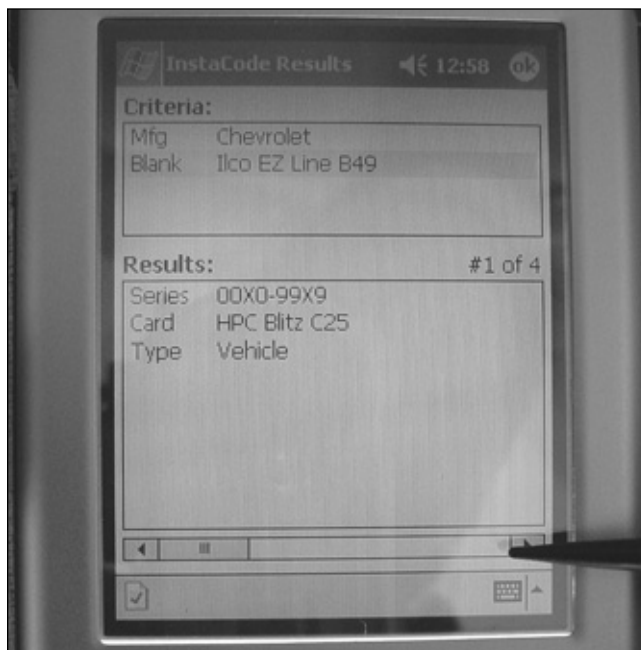


Figure 17.

when all information on regular InstaCode is also accessible in Pocket InstaCode, it will rarely be displayed all at once. No specific code is requested, but I have identified Chevrolet and any codes that use the GM "B" keyway (Ilco EZ# B49).

When I search now, I get the screen in **figure 17**. Instead of a display that shows four code series, I get one code series identified as "#1 of 4." Again, dealing with a Pocket PC screen, only part of the information will be displayed at once. The other three codes series can be scrolled to using the stylus as shown. As earlier, with regular InstaCode, I'm going with the third code series (0C00-9C99) in **figure 18**. I tap the selection with my stylus and get the screen in **figure 19**. My stylus points to "General" which is the first part of the data displayed. As earlier, without selecting a specific code number, I get the first code in the series: 0C00. The key

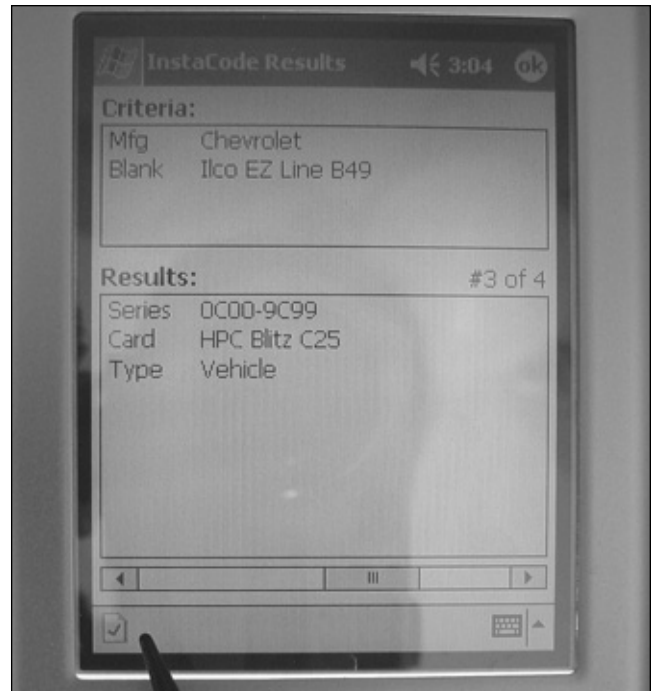


Figure 18.

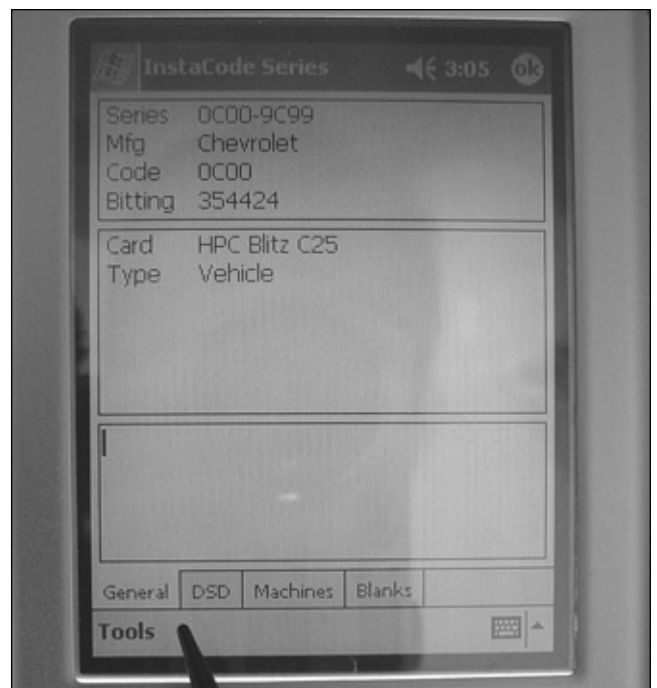


Figure 19.

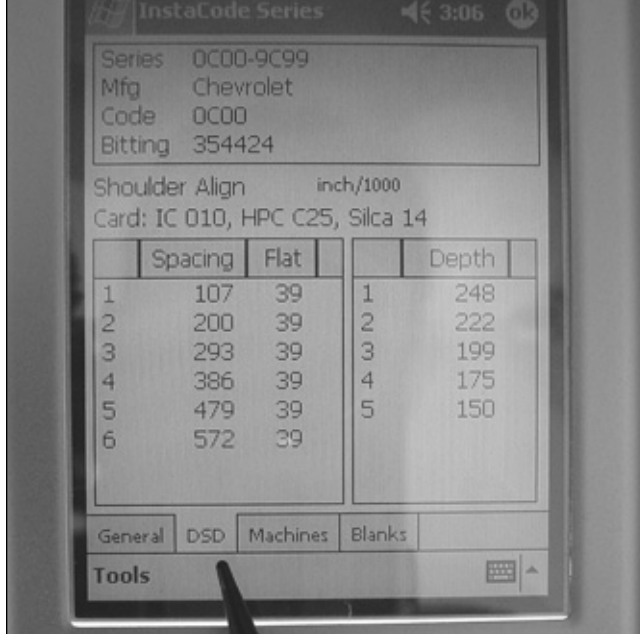


Figure 20.

bitting is 354424. For depth and space data, I have to tap my stylus on "DSD" and I get the screen on **figure 20**.

Besides the actual depths and spaces, there is also code card information. By tapping on "Machines," I get the screen in **figure 21**. This gave code machine information. Some information can only be viewed if you scroll down the screen. By selecting "Blanks" with my stylus, I get the screen in **figure 22**. Here it displays the equivalent key blanks for a variety of brands. You will also need to scroll in order to see them all.

Pocket InstaCode does not have ASP Catalog or Opening Instruction options. It is not really set up for the printing

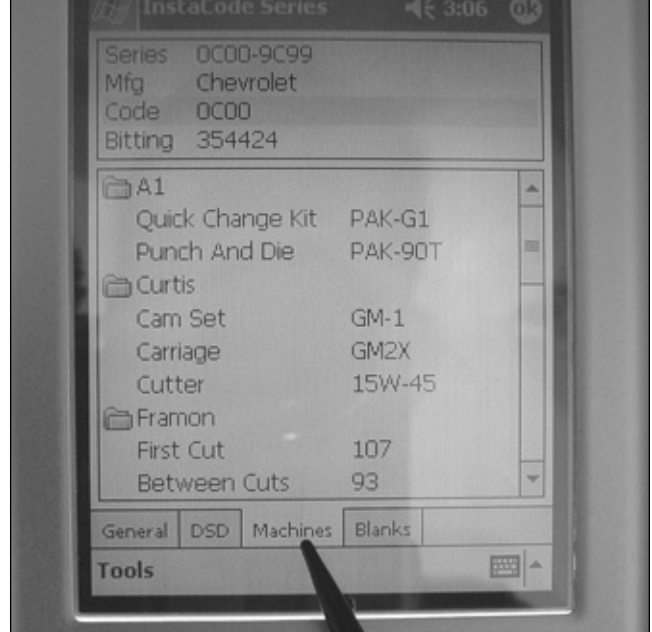


Figure 21.

options either, but it is designed to be compact so you can carry critical information in your pocket. If you look at **figure 23**, it does have "New Code..." and "Find Bitting..." options. I won't really go into the "New Code..." feature, but will for "Find Bitting..." because it is a bit different in Pocket InstaCode. In **figure 24**, I'm searching for an actual code for a complete key bitting, same as in **figure 10**. I get the same three results in **figure 25**. When I select the first of the three series, I get the screen in **figure 26** with 2C22 in the code series 0C00-9C99. In **figure 27**, I do the search with only the last four digits and get the resulting screen in **figure 28**.

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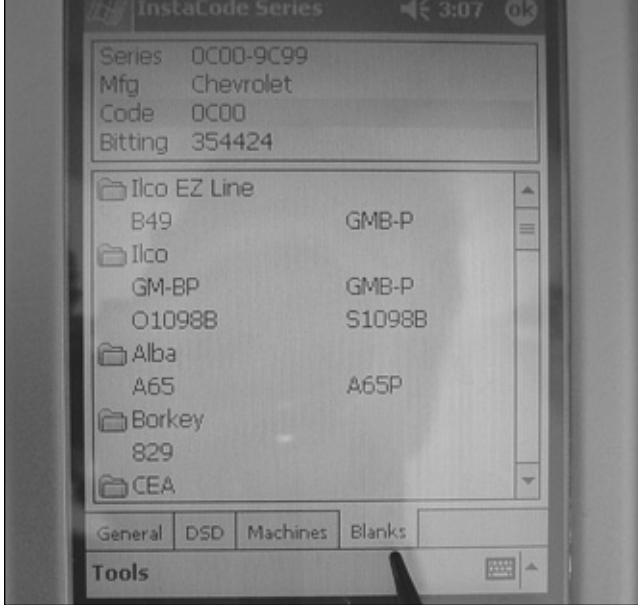


Figure 22.

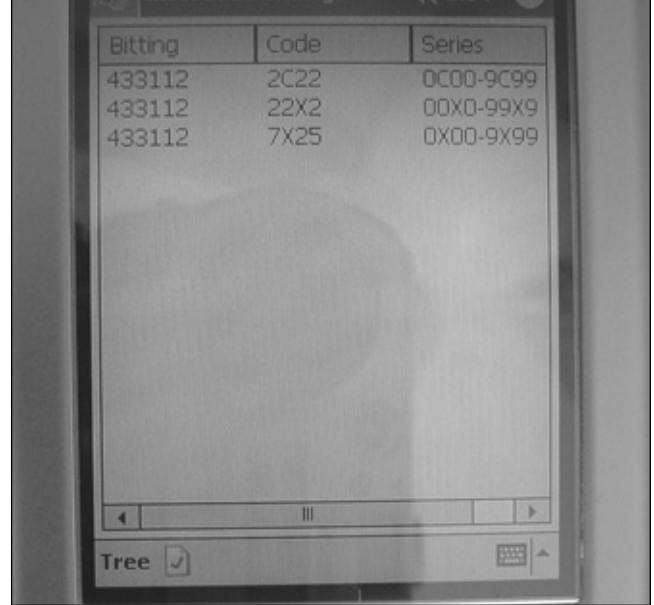


Figure 25.

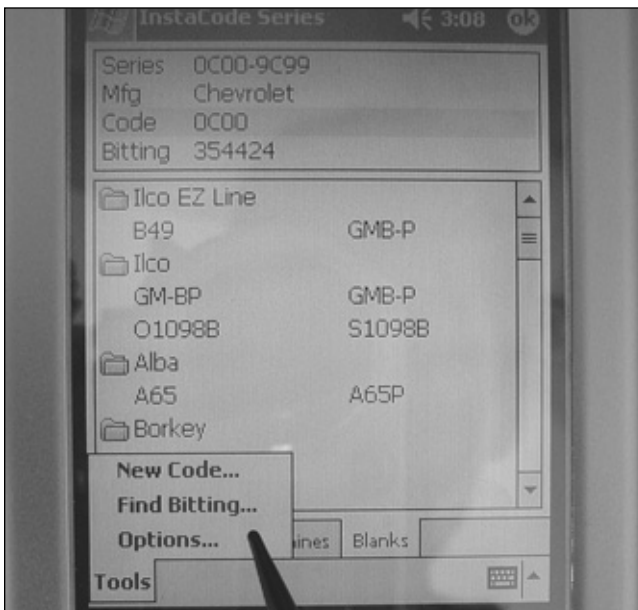


Figure 23.

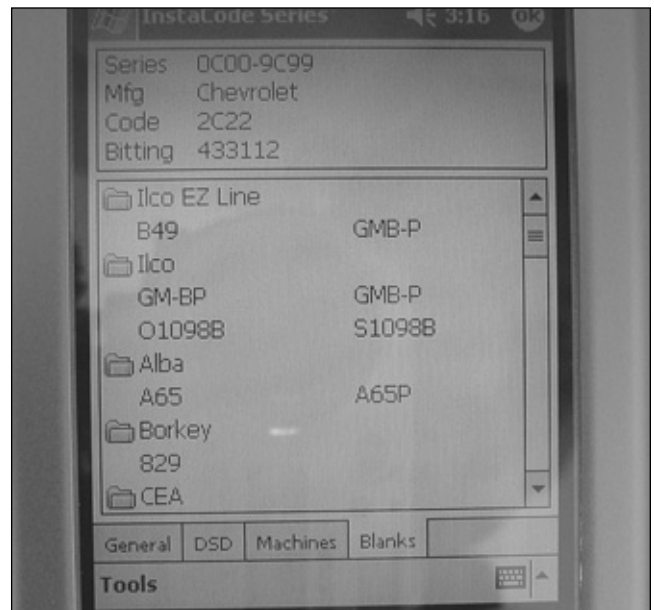


Figure 26.

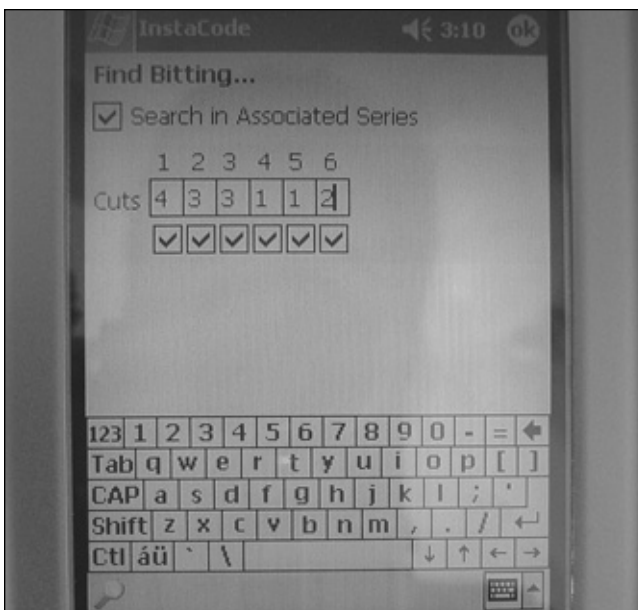


Figure 24.

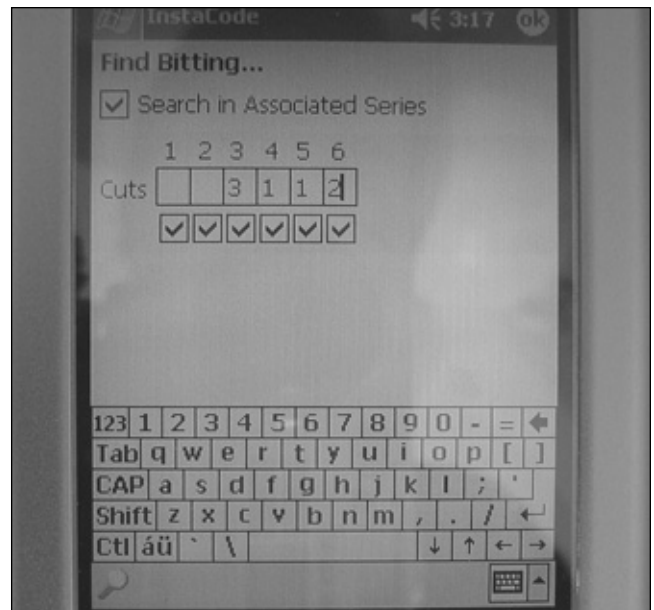


Figure 27.

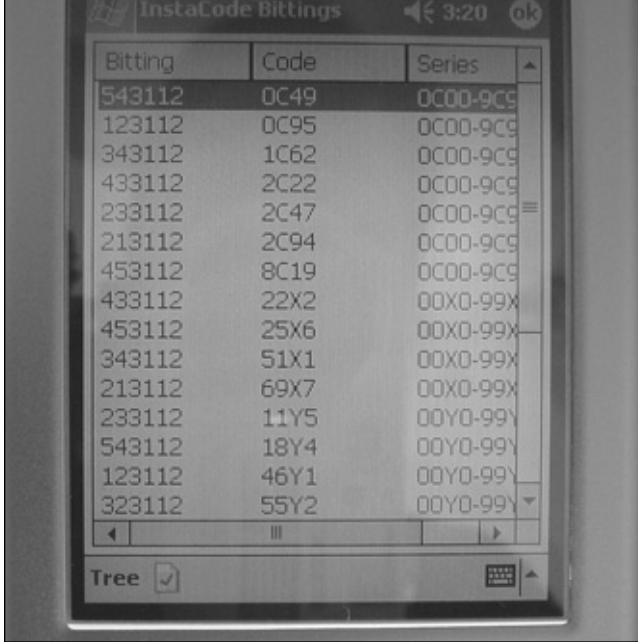


Figure 28.

Things go a bit different in the Pocket InstaCode version. I start out with the same 24 key codes (and by eliminating duplicates get to 8 unique bittings) but when I go to create a progression chart the data takes another form. This time when I select the cutting "Tree," I get the screen in **figure 29**. The progression is not displayed by the actual bittings (or key cuts) but by the corresponding code numbers. This is not an insurmountable task to deal with. If you have a notepad handy, copy the code numbers and bittings in the earlier screen and then rewrite the progression by substituting the actual key bittings for the code numbers displayed in the cutting tree.

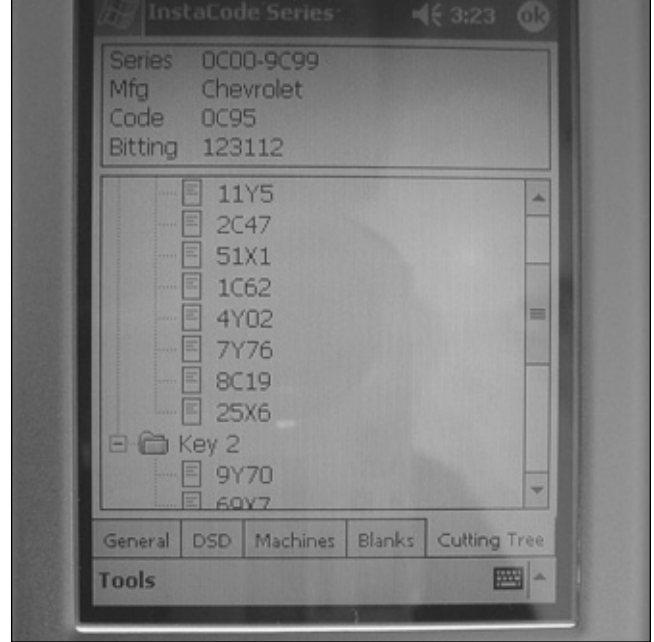


Figure 29.

Pocket InstaCode is not quite as powerful a program as regular InstaCode, but considering that a Pocket PC will fit in your shirt pocket, it is a rather amazing program. They are both first rate code programs.

For more information contact: The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107-1861. Phone: (630) 837-2044; Fax: (630) 837-1210; E-Mail: natllock@aol.com; Web: www.TheNationalLocksmith.com.



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The credit card has been around longer than many of us. I remember when my parents got their first credit card back in the mid 1960's. Only large companies accepted them back then. The concept of instant credit was new to most people and often mismanaged.

That was forty years ago and a lot has changed. Today, almost any store you enter will accept a variety of credit cards and some people refuse to use anything else. Who would have guessed that plastic would be so popular, not to mention so available.

For decades, the most common way for a business to accept a credit card was through the use of an imprint machine. A physical impression of the card was made on a multi-layer paper slip along with the amount charged. This paper slip was taken to the vendors bank for processing. After several days the vendors account was credited and the customers card was debited.

With the exception of some small businesses, the card reader virtually replaced the imprint machine years ago. Simply swiping the credit card through the reader retrieved information about the account holder. The most important part of this information is the account number. This sped up the transaction process and electronically provided an authorization number, but it did require that the card reader be connected to a phone line or a dedicated computer connection.

This was great for most storefront businesses. It made life a lot easier for the vendor and shortened the processing time for the vendor to receive money. However, it did require special equipment and there was one drawback. The equipment was not mobile.

While the storefront businesses had things under control, how could a mobile business accept credit cards? A card imprint machine was one option for the mobile business that is still in use by some. Vendors at convention centers have been combining the imprint machine with a call to special 800 numbers for years to get authorizations. However they still had to process the information at a dedicated terminal

A Mobile Credit Card Solution from Comstar

by
**Richard
Allen
Dickey**



at the end of the day or take it to the bank for processing.

What happens if you lose one of the charge slips before you are able to process the information? You didn't get paid! There are variations to the examples I have given, but the basic idea is the same. The mobile vendor is often unable to get an authorization and runs the risk of losing the slips before they can be processed. How could the mobile business take advantage of electronic processing and eliminate the possibility of losing paperwork before it is processed? Here is the answer and it is a product from Comstar Interactive Corp..

With CHARGE ANYwhere™ from Comstar Interactive Corp., you can instantly process transactions in just a few easy steps. Just swipe the customer's card, enter the amount, and click to submit approval. You will receive confirmation in seconds. You can either E-mail a receipt to your customer or add a printer and print a hard copy receipt on the spot!

Comstar Interactive Corp. is a privately held New York City based innovator of web-enabled wireless solutions. They are intended for both businesses and individuals. Their primary investor is Tesla Capital of San Francisco. They deliver to their customers a secure, end-to-end solution that combines cutting-edge software, hardware, middleware and gateway services.

All of this is available through nationwide wireless coverage, provided by either the Cingular Wireless Mobitex network or the Motient network. These are the leading wireless data networks in the U.S. Comstar's wireless solution includes credit card processing, e-mail access and messaging solutions.



1. The (RIM) device that allows mobile business owners to accept credit cards while on the road.

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2. The RIM snaps into a magnetic card reader.



3. Swiping the credit card and punching a few buttons will complete a point of sale (POS) transaction.

What exactly does this new wireless credit card solution look like? Well, take a look at *photograph 1*. This unit is about the size of a credit card and less than an inch thick. Its common name is a blackberry. Some of you may have heard of it, but I have to admit it is new to me.

This device is supplied to Comstar by a Canadian company called Research in Motion (RIM). When the RIM device is joined with the card reader (see *photograph 2*) it becomes a mobile credit card machine called "CHARGE ANYwhere." (See *photograph 3*.) How does it work? Well, let me try to explain.

The device connects wirelessly, kind of like a cell phone to Comstar's Gateway. A gateway is like a bridge between two different places. You can run up and down the highway all day long, but you can't go from St. Louis to East St. Louis unless you cross the Mississippi river. To do that you need a bridge. Comstar's gateway is the bridge that allows access to credit card processing companies.

The credit card processing companies complete the authorization on an average of five to seven seconds, according to Comstar. The authorization number comes back to you and the transaction is stored on Comstar's secure web site.

Comstar's Web-based transaction management system, Called "CHARGE ANYwhere Transaction Manager," gives you, the vendor, a

real-time view via your desktop computer of credit card sales taking place in the field by your employees.

I wanted to take a look at the transaction manager to see how easy it is to use, and if it would give me any useful information. I got on the web and went to (<http://www.comstarinteractive.com/default.aspx>). From there I went to the login area to enter the "secret code." There are three things to enter. (See *figure A*.) You need a user name, a password and you have to pick the product you want to use. In this case it was the "Transaction Manager."

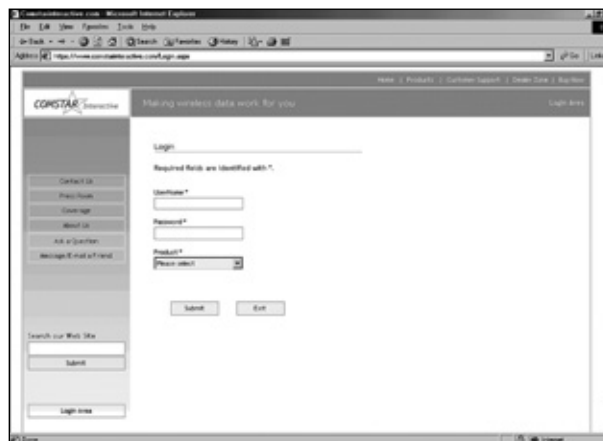
The Transaction Manager has nine options at the top of the screen. (See *figure B*.) I will cover the most important one at a time. The default screen is the "Search Transactions" screen and shows all of the days transactions. From here you are able to find any transaction that has taken place. I spent a little while playing in this area because it seemed to be

very flexible. You are able to look things up by almost any way imaginable.

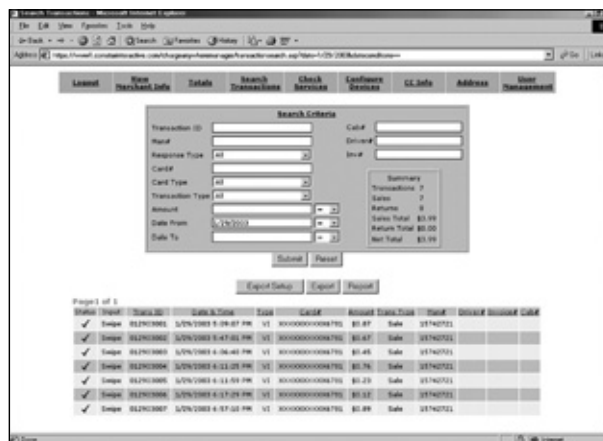
If you know the date of the transaction, you can use it. Or you can search for the transaction between certain dates. How about by amount? Yea, that works too. If you are not sure of the amount, you can look for transactions that are equal to and less than a certain amount or use one of the other available variables. (See *figure C*.) As you can see from the example, there are many different ways to find a specific transaction.

The "Totals" screen shows a list of all of the accepted credit cards and the totals for the day. (See *figure D*.) As you would expect, there are several search options to choose from for this screen also.

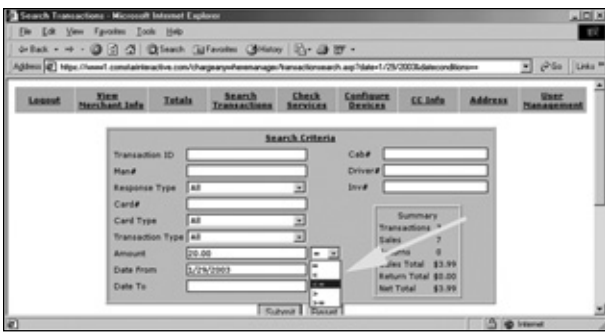
The "View Merchant Info" screen shows information specific to



A. Access through the Internet provides complete control over the RIM device as well as providing loads of useful information. This is the log in screen.



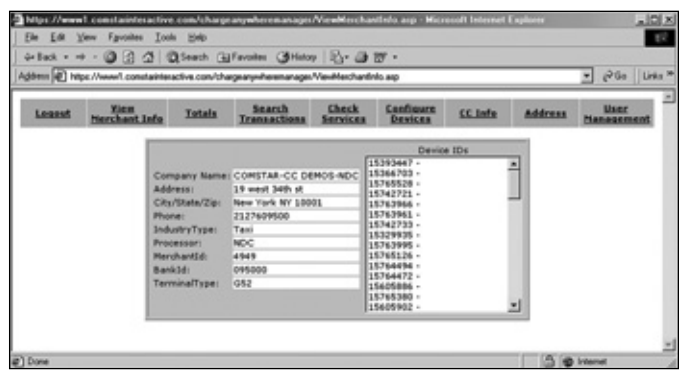
B. After the login process, you are taken to the "search transactions" screen by default.



C. All transactions can be searched in any number of ways.



D. The "totals" screen will show the total dollar figure brought in by your business. You are able to use the search feature to view specific information.



E. The "View Merchant Info" screen shows information specific to your account, including "Merchant ID" and "Bank ID".

your account, including "Merchant ID" and "Bank ID." (See figure E.)

"Check Service" is another screen that is available. (See figure F.) What is a check service? Well, it is a simple check guarantee service provided by a company called Crosscheck. The idea, is to enter the name and drivers license number of the

customer and Crosscheck will reply with an authorization number. Crosscheck will guarantee that you get your money!

The "Configure Device" screen is the place to go to control what your employee in the field is able to do with the mobile credit card reader. (See figure G.) Here you can control the ability to enter a card manually or require it to be swiped. As you may know, a swiped card costs less to process than a manually entered card. It is also safer.

You can also control the ability to credit customers as well as other

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safety features. Comstar's software allows the devices to be re-configured wirelessly over-the-air. This is an industry first and gives vendors the flexibility to easily capture additional data as their business requires. It also gives you the ability to disable a device if needed.

The "CC Info", (see figure H) "Address" (see figure I) and "User Management" (see figure J) are screens that you may use only once or twice. However, they do add to the flexibility of the system.

Some of the available screens allow you to query, create and print custom reports and import/export data into back-office software. The files can be saved as Excel or CSV (comma separated values) format for easy integration directly into your company's own software.

There are several versions of reporting software available in conjunction with Transaction Manager that are customized to various industries. This gives customers precise information, specific to their particular business area. This will allow you to accurately track transactions taking place in the field.

The CHARGE ANYwhere solution is secure from top to bottom. CHARGE ANYwhere employs the highest level of end-to-end security available today in the wireless POS industry with 256-bit randomized encryption over-the-air and 1024-bit for Transaction Manager.

I guess there are some of you that are wondering how much all of this high tech stuff is going to cost. Well, the hardware (the RIM device and card reader) can vary. Do you want new equipment or will refurbished be just

fine? Refurbished will save you a lot of money. If you go with new, you will be looking in the \$600.00 range. However, the price will vary depending on what part of the country you live in.

dual track reader allows you to process data from credit cards, private label cards (e.g., gift cards), and Track 2 driver's license data

- Reads all IATA and ABA Track Data

The monthly charges should be consistent everywhere. \$19.95 is the required minimum service for CHARGE ANYwhere users. This price includes the cellular connection time, Transaction Manager access over the internet and gateway access as well as a few other things. There are other package prices that provide more features that may be of interest. To find out what they are, give them a call.

Here is a list of technical information for the Charge ANYwhere system.

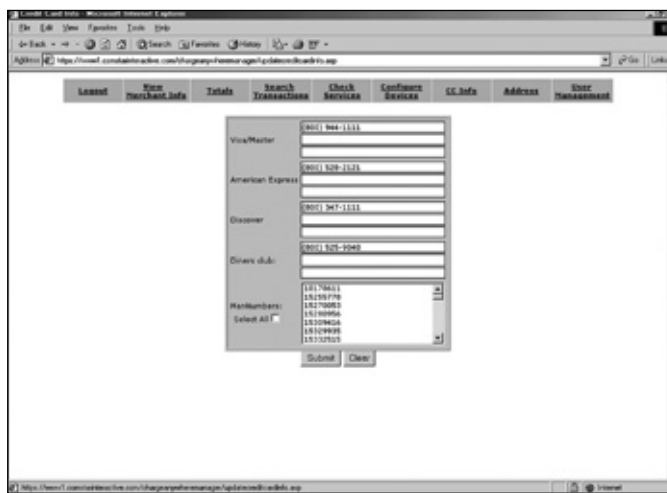
- Coverage provided in 93% of the urban business population.
- Fast! -Real-time transactions average 5-7 seconds
- Reliable! - Dedicated data network with redundancy, backup and guaranteed delivery
- Virtually anytime, anywhere wireless credit card processing with patented design features perfect for the mobile business
- Certified software for real-time processing of all major credit cards and check authorizations
- Certified by leading credit card processors, including Global Payments/NDC & Atomic/Ecomport.
- Cutting edge security! Data transfers with randomized encryption - 1024 bit in the database and 256 bit over the air
- Card reader is easily attached to a RIM Wireless Handheld via "snap-in" mechanism
- Serial port connector to support external electronic receipt printers
- Detachable swivel belt clip that allows you to easily wear your device anywhere
- CHARGE ANYwhere™



F. The "Check Service" screen is part of a simple check guarantee service. If used properly, Crosscheck will guarantee that you get your money!



G. The RIM devices can be configured wirelessly. If a change has to be made with a device, it can be done almost instantly.



H. The "CC Info" lists credit card company information.



I. The "Address" screen lists company information.

- ISO 1 and 2 Compliant
- Card Feed Speed: 8-150 cm/sec
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- Access Data Stored on the Web
- Receive Pages
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- Docking station allows for synchronization of common software



J. The "User Management" screen allows you to add and delete RIM device users.

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Beginner's Corner



By Ken Holmlund

In the Toolbox, Part 6 Tubular Locks

Before you have been in the locksmith business for very long, you will get requests for cutting tubular keys. (See *photograph 1.*) Customers will call them many names including those round keys, or those funny looking keys that look like a tube, or something similar, but they all are talking about tubular keys.



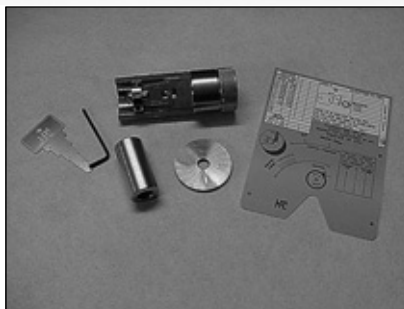
1. Tubular Keys.

If you are going to just duplicate tubular keys, you will have several options ranging from mechanical to electrically powered cutting machines. Several companies make electric duplicators for tubular locks including the ILCO 009A. (See *photograph 2.*) The HPC Scotsman



2. Ilco 009A Tubular key machine.

747XU will cut almost every type of tubular key including a dead pin, 8, 10 and 11 pin and pin within a pin. HPC also offers a more economical 747E model as well. An adapter kit is also available for the Blitz code machine that allows duplication of tubular keys, but it is limited in its



3. HPC Blitz TKA-CMB Tubular adapter for the Blitz 1200.

application. (See *photograph 3.*) Framon offers the heavy-duty TKM100. Their website is listed at the end of this article and will give you a lot of information.



4. A-1 HG1 Herty Gerty Hand held tubular key machine.

The tubular key machine I have chosen to use in my mobile operation is the Herty Gerty from A-1 Security, Model HG-1. (See *photograph 4.*) I have been using the Herty Gerty for several years in a mobile operation and have found it to be completely adequate for all the keys I have been called upon to cut.

The Herty Gerty is a compact, hand operated tubular key machine. You can code cut the 137 standard tubular blanks, offset left and right, and pin within a pin with the accessory cutter CS. You can duplicate by using the decoder that is included with the machine.

Additional accessories are available for the Herty Gerty including the CS cutter, accessory dials for .400 large diameter blanks, accessory dials for the .375 small diameter blanks, and a bench mount. (See *photograph 5.*)



5. A-1 HG1 and BM Herty Gerty in the bench mount.

The bench mount will enable you to have better control of the tool, but unless you have a designated location for it in your truck, I doubt if it will get used unless you have several keys to cut at one time. If you have the room, by all means, get the mount and keep the tool where it can be easily used.

HPC also has a hand held tubular key machine. It's called the Pocket Cut-Up and it is number TKM-90. It is factory preset to cut standard size center sequence keys, but can be easily adjusted to offset left or right including dead pin cuts. It can also cut the Greenwald style tubular keys. One nice thing is its size. It weighs in at an incredible 13 ounces and is 2" in diameter and 4" long.

Many times you will be called upon to make a key for a tubular lock when no working key is available. Sometimes this can be done by finding a code number stamped on the face of the lock or on the side. If

Continued on page 104

4 OUT OF 5 CRIMINALS AGREE:

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With its revolutionary drill-proof swivel plate, pull-proof cylinder and just plain thief-proof construction, it's little wonder criminals hate the new 2500. However, when you consider the convenient front-entry keyway and simple-to-service standard American Lock cylinder, it's just as easy to understand why locksmiths love it.



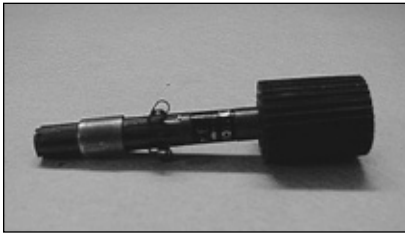
©2002 American Lock Company



To get your hands on the new standard in industrial security, call 800-323-4568 for an American Lock distributor near you.

Circle 388 on Rapid Reply

that is the case, the information to cut the key can be found in books or software on a computer. I will cover them more in detail in a later article. If you do not have access to the code information, you will have to pick the lock. This is done with specialized picks that are quite different from cylindrical lock picks. They are round to fit in the lock, and work all the pins at the same time.



6. A-1 20 Tubular Pick.

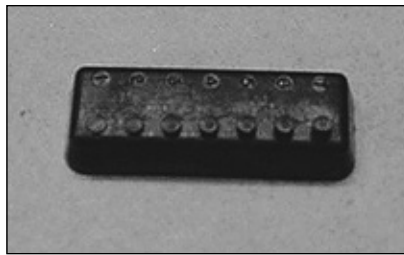
The A-1 pick number 20, is an example of such a pick. (See photograph 6.) Also available is the A-PICK 20X to pick locks where the pins are offset to the left or right. The A-PICK works quite simply. You bottom out the fingers for all seven pins and insert the pick. By working the pick in and out ever so slightly you can trap the pins and find the shearline one at a time. It takes some practice, but with a little effort, you will be able to open most tubular locks. They are also available in a set under the order number 20-set. A-1 has a small diameter pick as well numbered the 20-KEV.

Again HPC weighs in with several tubular picks including the basic picks, and offer some specialty types for offset and high security locks. They even have some for inverted 6 pin and peanut locks. If you have a need for something out of the ordinary, give them a good look.

PRO LOK has an assortment of picks for tubular locks including the PKA1 for standard seven pin, and the PKA2 deluxe ace pick for more applications.

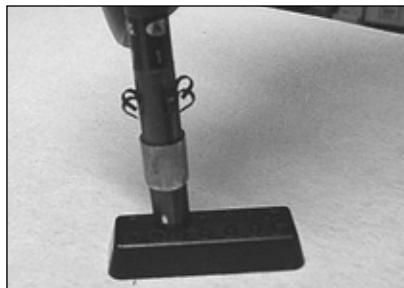
Peterson Manufacturing makes the Peterson PRO 1 that appears to be an excellent tool with many applications. I have not used the tool myself, but the articles I have seen on the tool give it excellent ratings.

Once the lock has been picked, you can decode the cuts by using the decoding tool that is included with the Herty Gerty and the A-PICK.



7. Decoder.

(See photograph 7.) Decoding is done by placing the pick face down on the decoder, and matching the depth of the fingers to the correct depth on the decoder. (See photograph 8.) Simply write down



8. Decoder and Pick together.

the depths as you determine them and then cut them on a blank. Clean up the key and try it in the lock. These locks are quite exact, so any burrs on the key will prevent them from working smoothly, if at all. For detailed instructions on the use of this tool go to demanda1.com and open the tubular lock section. Under the tubular pick you will find a location to open the instructions. Read and copy them. They work.

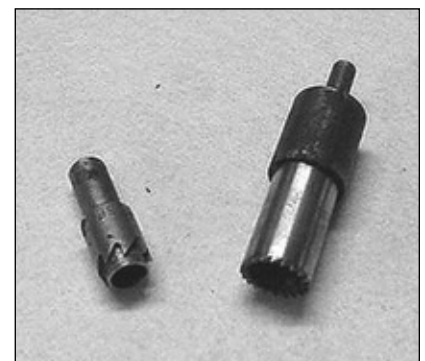
A specialty style of tubular lock to be covered is called a Greenwald lock. It is made by the Greenwald Corporation and is basically the same as other tubular locks, but it is usually hidden under a cone or other protective cover and requires a special tool to be able to pick. I have such a tool, but I must admit I have never been very successful in picking them. I need more practice I guess.

These locks are common on money boxes for washing machines and drive thru car washes. I have even found them on air machines for pumping up your automobile tires. Often times, if it is a Greenwald lock, you can find the code number inside the money box. It will be on a paper tag and many will start with a GR prefix for the code. Greenwald will cut a key for you from that number, but don't quote the customer a price

until you get one from them. They are not cheap. HPC has a pick for these as well. It is the TLP-GUARD featuring an aluminum handle with a feeler reset lever and a stainless steel barrel.

You will come across a few tubular locks that do not have a code and that you cannot pick open due to several situations like a broken lock or just a lack of experience in picking tubular locks. We have all had them; so don't be surprised when it comes your way. You will then have to resort to drilling the lock. Here you have a decision to make. Does the customer have more than one lock with the same key? Do you have a replacement for the lock if you drill it? Is this an oddball setup that has to come from the original manufacturer? Will you need to make a key from the lock once it is open?

If destroying the lock is not a problem, use the tubular drill meant to work like a hole saw that will destroy the pins and all. (See photograph 9.) The saw shown is from HPC and is model AC-2 for oversized locks. They also have the AG-1 for standard locks. Replacement saws are available for both sizes. Be aware that when they are used the lock will have to be replaced.



9. HPC-AG2 and A-1 Tubular Saws.

If you want to be able to make a key for the lock when it is open, use the A-1 number A14 tubular lock saw, also in photograph 9. This saw allows for decoding because a shoulder prevents drilling below the shearline. You can now remove the pins and decode them. Then it is a simple process of cutting a key to the depths you have established from measuring the pins. One word of advice here is don't apply too much pressure on the drill motor when using this tool, because you can cause the shoulder to roll and make the saw cut too deeply. I know because I have done it.

Tubular lock work is a different facet of locksmith work and needs to be treated as such. Just because you can pick a key-in-knob lock does not mean that you will automatically be good at picking a tubular lock. The procedure is completely different and as much practice is needed to pick a tubular lock as you gave to picking a pin tumbler.

The prices you will pay for the various tools will vary with suppliers, but the approximate costs for the tools are:

ILCO 009A Tubular Key Machine:
\$427.00

HPC 747XU Tubular Key Machine:
\$1155.00

HPC 747E Tubular Key Machine:
\$540.00

Framon TKM100 Tubular Key Machine:
\$1405.00

HPC TKA-CMB Blitz® Tubular Key Adapter Kit:
\$242.00

A-1 HG-1 Herty Gerty Tubular Key Cutter:
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A-1 BM Herty Gerty Bench Mount:
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HPC TKM-90 Pocket Cut-Up® Portable Tubular Key Machine:
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A-1 20 Tubular Lock Pick:
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A-1 20 Set Tubular Lock Pick Set:
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A-1 20-KEV Tubular Lock Pick Small Diameter:
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HPC TLP-GUARD Tubular Lock Pick:
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A-1 A14 Tubular Lock Saw:
\$36.00

HPC AG-1 & AG-2 Tubular Lock Saws:
\$35.00

PRO-LOK PKA 1 Tubular Lock Pick:
\$65.00

Pro-LOK PKA2 Tubular Lock Pick:
\$240.00

Peterson PRO 1 Tubular Lock Pick:
\$315.00

As is the case with most of the tools I talk about in this series, they are available from your supplier, but if you want more information contact the appropriate manufacture at the following address.

A-1 Security Manufacturing Corp: Phone: 804-359-9003 or 877-725-2121; Fax: 804-359-9415; E-Mail: fmcc@demanda1.com; Website: www.demanda1.com

Framon Manufacturing Co, Inc.: Phone: 517-354-5623; Fax: 517-354-4238; E-Mail: framon@northland.lib.mi.us; Website: www.framon.com

Greenwald Industries: Phone: 1-800-221-0982; Fax: 1-800-445-1340; Website: www.greenwaldindustries.com

HPC, Inc.: Phone: 847-671-6280 or 800-323-3295; Fax: 847-671-6343; E-Mail: hpc@hpcworld.com; Website: www.hpcworld.com.

Kaba Ilco Corp.: Phone: 336-725-1331 or 800-849-8324; Fax: 336-725-3269; E-Mail: info@kws.kaba.com; Website: www.kaba-ilco.com

PRO-LOK: Phone: 714-633-0681; Fax: 714-633-0470; E-Mail: mail@pro-lok.com; Website: www.pro-lok.com

Peterson Manufacturing: Phone: 585-264-1199; E-mail: info@peterson-international.com; Website: www.Peterson-international.com

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The Lighter Side

An Open-and-shut Case



by Sara Probasco

“**W**hat was that problem car opening you were telling Joe about, earlier?” Don asked a locksmith friend at a regional meeting.

“Oh, that was a mess,” was the reply.

“Did you say it was a Stingray?”

“Yeah an old model. Eighty-three or Eighty-four. I’m not sure which.”

“What was the problem?”

“Well, to start with, they’d been working on it for a couple hours before they called, and when I got there, they had a Slim Jim hung in the passenger door.”

“Umm hmmm!” Don muttered knowingly.

“That wouldn’t have been so bad, but they’d already pulled the linkage loose on the driver’s side before they started on the passenger’s door.”

“That’s great,” I chimed in. “So what did you do?”

“What could I do? I went in through the T-top.”

“You’re kidding!”

“Uh oh, I can see that getting expensive,” Don said.

“Four hundred dollars, total.”

“I’ll bet the customer hit the ceiling over that.”

“He didn’t, but the police department did. They’re the ones who messed up both his doors. I figured without their ‘public service’ help, it would have been a standard opening, so I made the bill out to them.” He shrugged. “For that price, I repaired both

doors and put back the T-top. But I kept the Slim Jim.”

“How come?” Don asked.

“Well, the Chief blew his stack over what they’d done, and since nobody would own up to being the one who had used it, he suggested I hang onto it and let him know if somebody claimed it later on.”

“Did anybody ever ‘fess up?’”

“Yes and no. A couple weeks later, this sergeant dropped by and asked if I still had it. I told him I did, and I asked him if it was his. He kinda shuffled his feet and said something about figuring it probably belonged to somebody on the force and he’d just take it back to the station.”

“What’d you say?”

“I told him I’d be happy to give it to whoever it belonged to, but they’d have to come get it themselves.”

“And did they?”

“Why, heck no. But three, four months later the same officer hung another one in a new vehicle. That time, he admitted he’d done ‘em both. About the time the Chief got my second bill, he sent out a memo that policemen would no longer be permitted to open vehicles. Then he rounded up all the Slim Jims and brought them to my shop. We haven’t had any more trouble with policemen opening cars.”

The locksmith began to laugh.

“What?” Don asked.

“Well, I guess the devil made me do it. You know those long, skinny sausages that are called Slim Jims? I bought a box of them and sent it

to the sergeant for Christmas that year, anonymously.”

“You know,” Don said to me later, “his experience sort of reminded me of the time the Floyd County sheriff’s deputy called me out to open that vehicle and I found Slim Jims and a couple of coat hangers caught up in the driver’s window. Remember my telling you about that?”

“Was that the time they’d used up every kind of tool and wire they could find and had sent some of the deputies after Slim Jim reinforcements?”

“Right.”

“If I remember correctly, that was also the time you calmly walked away and left the tools they’d gotten stuck still protruding from the driver’s window.”

“Yeah.” A mischievous smile spread Don’s lips. “I’ll never forget the look on the customer’s face when he said, ‘Hey, you can’t leave me like this, with those things sticking out of my door.’”

“And you said...?”

“I told him I was really sorry, but I wasn’t responsible for the driver’s door. I had opened the passenger door, and that whoever had stuck those things in his door should be able to get them out. Then I said, ‘Have a nice day,’ and I drove away.”

Late that night—actually, in the wee hours of the morning—the last service call of the day phoned in, another car opening, this time, at the local dance hall.

“My daughter locked up her car with the keys in it,” the man said.

"If you'll write me out a ticket, I'll come by tomorrow at the end of my shift and pay it."

Long ago, we learned not to "charge" car openings unless the customer already had an established account with us, so Don hesitated. Then he asked the customer's name.

"Aw, Don, you know who this is," the man replied. It turned out to be the police officer who was our first customer when we opened the store in Uvalde, nearly seventeen years ago.

When he came to pay the bill the following afternoon, Don couldn't resist asking him a question.

"I know you guys open a lot of cars around town. How come you called me to open your daughter's car, last night, instead of getting one of your cohorts to do it for free?"

The officer looked Don straight in the eye. "You gotta be kidding," he said. "You think I'd let one of those nincompoops mess with her new car? No way. There's no telling *what* kind of mess the linkage would be in, by the time they got through trying to open it. What's more, I'd probably have to wind up calling you, after all."

"Well, it's nice to be needed," Don said.

"I gather you've been in demand a lot, lately."

"Yeah. There have been a lot of car openings around town, today. I guess you could say we've had a run on open-and-shut cases—only around here, they were shut-and-open cases," Don said, chuckling.

"You lost me, there," the police officer said.

Don grinned.

"They shut, I opened. Case closed."

The police officer groaned.

"Probasco," he said, "you're lucky lousy humor isn't a crime. I oughta run you in and throw away the key anyhow, just on general principal. But then I'd be stuck with listening to more of your jokes, so I think I'll just go home and have a couple of beers."

I could sympathize. **TNL**

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Champion



by Dale W. Libby, CMS

It is nice to meet a new adversary (safe) every once in a while. And after lots of work, the one time unknown opponent becomes, if not a friend, then at least a recognized factor.

This is very true of my most recent adventure on a safari to open and repair a locked Champion Gun Safe made in Provo, Utah. The metal-flaked dark green safe sported a malfunctioning Sargent & Greenleaf 6120 electronic combination lock. The owner had replaced the two 9-volt batteries with new alkaline 9-volt Duracell batteries and the unit still would not open.

The call for assistance came from the factory direct, a person named Jason was very helpful and persuasive in setting up this adventure. In fact, he was a little too nice. It was just a gun safe with an electronic lock, I did not perceive any big problems or issues opening it. Boy, was I wrong! Never underestimate an unknown enemy, especially when you are quoting a price on a safe that you have never seen or worked on before. You would think that after all these years I would know this. Live and learn. I just forget the learn part.

The Champion Line of Gun Safes is made in Provo, Utah. *Photograph 1*, shows their Victory Model with tri-spoke handle and an S&G 6120 electronic combination lock. The keypad is removed by pulling out on the sides and top, and it uses two 9-volt alkaline batteries. The safe manufacturer called me to open this unit on a warrantee basis.



1. Champion "Victory" Gun Safe with S&G 6120 lock. Note tri-spoke handle.

The unusual fact was that the company who sold the safe to the customer refused to come out and service the safe. They stated that it was too far for them to come and work on the unit. Maybe they had worked on a Champion Safe before and new how tough of a unit it is to work on. A view of the inside of the door was supplied by the manufacturer (thanks Jason) and is shown in *illustration A*.

Before doing anything drastic, I referred to the S&G troubleshooting manual for procedures to try and get the 6120 lock to open. After changing the batteries with two new Duracell 9-volt batteries, the first trick I tried was the 'walking

back' method. With this method, the correct combination is dialed in and the pound (#) sign on the keypad is pushed. This action will unlock the unit and the bolt will retract. Then, before the lock bolt is extended, the keypad is unplugged by removing the small plug inside of the keypad on the lower right side. Wait for 10 seconds, and try it again.

After ten tries, each time trying to open the lock, the unit was still closed.

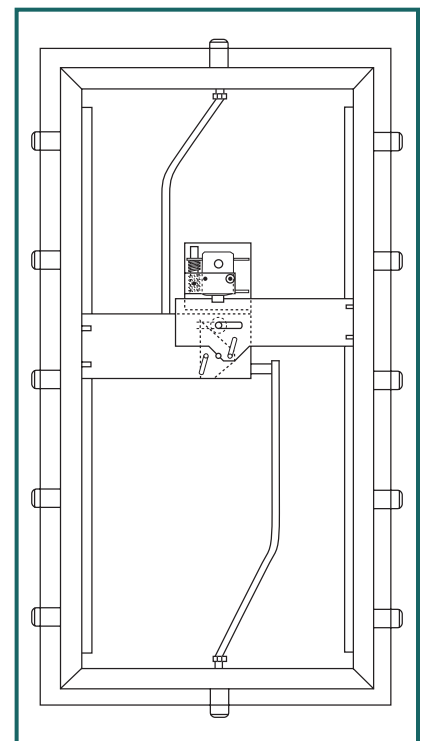


Illustration A. Champion Safe Door detail from inside the unit (From Manufacturer).

Continued on page 110



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Circle 357 on Rapid Reply

The next attack was done with the aid of the safe owner. I used a small blunt punch to tap on the lock case through the spindle/wire hole on the safe door. This ploy has worked several times, but it requires two people to do it. The last time it worked I was with Bob Sieveking in Rockford, IL. A gun safe was not working and after a few taps the unit opened. This time the procedure did not work at all.

Eventually, if all else fails, you will have to drill. Easier said than done on this Champion safe. One of the issues is that the finish on these gun safes is so nice you hate to touch the safe door and leave fingerprints. If you have to drill outside the dial ring, then you are in big trouble, especially if you have to drill two holes. The owner of the safe said that I should go ahead. He had to get to his money collection inside the unit.

In *illustration B*, is a cross section of the door and details of the relocking system employed on the Champion Safe. The relocker is to the right of the safe lock as viewed from outside of the safe. There are places for a relocker to the left of the lock as well, which was not used on this safe. I wonder if they vary the relocker position from safe to safe?

The hardplate is actually a floating hard plate. If you have never had the pleasure of drilling moving hardplate, then you are in for a treat. It makes drilling a nightmare, for each time you check the hole you started, it has moved to a different position. After drilling, you have to probe the plate back into the attack position for the drill bit to start in the same place.

The second part of this outlandish, frightening and fear provoking hardplate, was the D5 addition to the hardplate. D5 you ask? It stands for Diabolical Diamond Dusted Disk of Death. The manufacturer just calls it the Diamond Dusted Disk. I added the other two names to reflect my feelings on this.

There is a 2" hole in the hardplate and this D5 is welded to the back of the hardplate. It protects the vertical down lock bolt position. When drilling from the

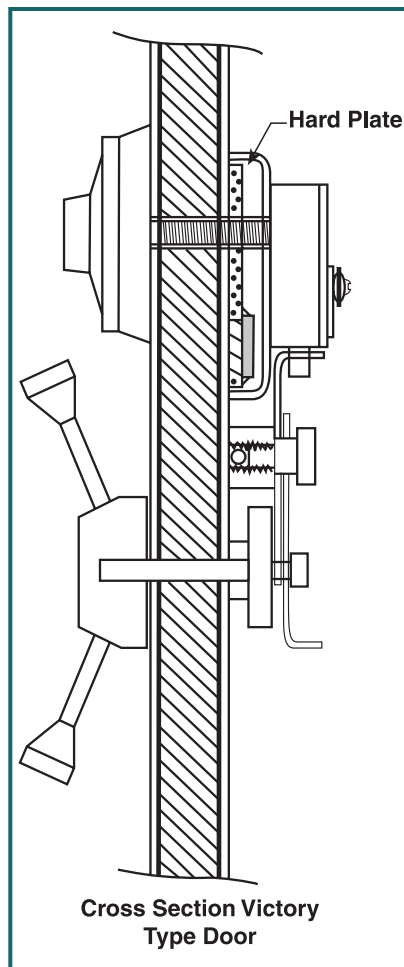


Illustration B. Champion Gun Safe "Victory" model cross section of door with relocker and bolt details. Note the D5 disk between the lockbolt and the hardplate.

front of the safe, the floating hardplate would be in the position as seen in *photograph 2*. The arrows in this picture point to the holes that I drilled. The hole on the disk (to the left) was for the combination



2. Diabolical Diamond Dusted Disk of Death (D5) on large hardplate. Arrows point to holes I drilled for bolt and relocker.

lock bolt and the hole to the right was for the relocker. Here is how I determined where to put the holes into the safe for opening.

Before drilling 2-1/2" below the spindle hole to lightly tap the bolt off the lock, I tried a method that I had never tried before. I tried drilling down the spindle hole into the lock case to reach the armature of the lock. This is a method that was once a viable option on older 6120's, but did not work on this lock, or will not work on any later model 6120 electronic locks. Sargent & Greenleaf now incorporates a hardened disk (which we will see later) above the motor on the case of the lock. When you drill down and put pressure on this disk, even with a hardplate drill, it just spins and spins until you actually punch the motor off its housing and set off the interior relock spring (which will again be shown later in this article). The only chance I saw was to drill for the lock bolt and punch it off.

I first removed the keypad and the keypad assembly holding fixture dial ring. The hole went nicely until I hit the D5. I demolished two hardplate drills before I realized that something was not right. I did not know about the D5 in advance and was surprised to see that there was no damage at all to the hardplate, but I had two dead StrongArm 1/4" drills and nothing to show for it. I tried probing the hardplate and finally I saw a slight indentation where I had been drilling previously.

After probing the plate back to the attack position, I kept re-drilling until I got through. Each time I checked progress, I had to move the hardplate by probing it back into the attack position. Don Spenard has a saying that is very true. "Whoever comes to the party with the most carbide Wins!" I did get through, but instead of seeing the lock bolt, I saw the lock case. I drilled through that to the bolt. My measuring was a little high, so I did not come down far enough at the bottom of the bolt. I blame the floating hardplate, and not my measuring.

I did try to pry up the bolt, but it would not move, even after



3. Back side of hardplate showing how the D5 was welded onto the hardplate over the disk hole.

drilling small holes in it to make a good purchase with my probe. I decided reluctantly to punch the bolt. This was accomplished in short order. The safe had a relocker, but I did not know where it was at the time. I put my borescope into the open hole to see if I could see where it was located. Because the hole was inside the lock case, all I could see was the sides of the lock but no relocker.

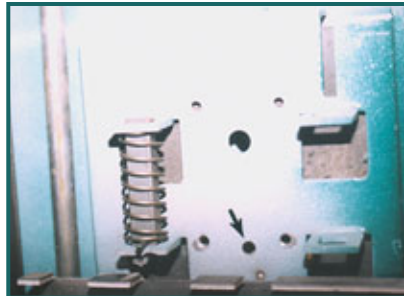
The inside of the D5 disk is shown in *photograph 3*. The disk is actually a small plate that is welded on two sides on the bottom and across the top. This disk is punch proof. The arrows in this photograph again show the holes that I drilled. The hardplate hole was 1-7/8" to the right, and 2" down.

Before drilling for the relocker, I called the Champion Factory for help. They were kind enough to send the two diagram sheets reproduced with measurements for the relocker. It is 1-7/8" to the right of the lock as seen from outside the safe. It is about 3" long. My quandary was where to drill. I chose to drill directly below the holding bracket. From this one hole I could accomplish two things.

First, I could probe and raise the relocker and then hold it up with pressure from the handle. If this did not work, then I could drill the square relocker off at the horizontal bolt position and still get the safe open. One hole with more than one opening option.

After penetrating the movable hardplate (much easier than the D5 was) I was exactly on the pin. I could probe the relocker up about 1/2", but it needed to go another 1/2" before it would be clear of the horizontal bolt bar. I could not do it. I probed, held, probed, held, and could not get it to where it would open. This was due in fact to the powerful (valve-like) spring that was on the relocker.

I opted to drill the relocker in half. This was much easier said than done, but it did get done.



4. Lock mounting plate with two sets of relocker brackets and remnants of the drilled off relocker.

Photograph 4, shows the inside of the safe with the drilled relocker. The arrow points to the hole in the inner plate above the D5 (not shown) where the lock was mounted. *Photograph 5*, shows the new 6123 electronic lock from S&G.



5. New 6123 lock mounted on safe.

I filled in the drilled holes and patched and colored them as best as possible and installed the new lock. I do not like working outside the dial ring because the repairs show.

Now, let's take a look at the 6120 and the 6123 electronic combination locks from Sargent & Greenleaf.



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6. The two battery keypad on left and the newer single battery keypad on right. Both use 9-volt alkaline batteries.

Photograph 6, shows two current model keypads that S&G uses. The keypad on the left is the classic 2-battery keypad, while the keypad on the right is the newer single 9-volt battery unit. On the two-battery model, the keypad is pulled from the door and the batteries are located on a board behind the keypad. The batteries slide in and are attached to the board.

On the single battery keypad there is a little slide tray at the bottom of the keypad that pulls out and down. A single battery fits into this holder, which is then inserted back up into the keypad. There are no wires or clips to mess with.

Both the 6120 and the 6123 locks are identical in size and look almost the same unless you look at the bottom of the bolts. The older 6120 lock has a springbolt arrangement. The bolt could be pushed up when the lock was locked. The 6123 has a deadbolt arrangement. Unless the combination was entered correctly, the bolt would stay out. In



7. Bolt differences between the 6120 and the 6123 electronic lock. The 6123 is shown to the left.

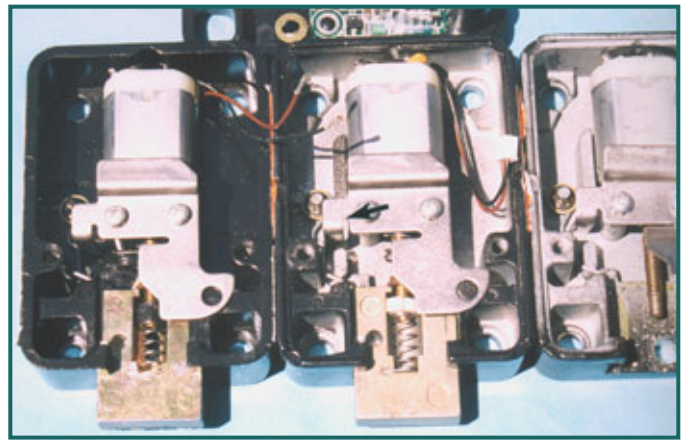
photograph 7, the lock on the left is the 6123. There is a little difference in the bolt. The lock on the right, the 6120, looks like a regular lock bolt. The one on the left, the 6123, is shaped differently. It has an added boss along the bottom of the bolt.

There is no way from the outside of the safe to know if you have the deadbolt or the springbolt version of the lock without documentation.

The covers of the locks can be removed and both locks look similar. (See photograph 8.) The 6123 have a black case and is on the left. The lock on the right is the 6120. The 6123 has a black ceramic nut while the 6120's have a white nut. The arrow in the right lock shows the relock detent. The relock is only set off when the motor and housing are punched. The real difference comes when the motor housings are removed.

Photograph 9, shows many things. The lock on the left is the 6123 and we see an added part under the bolt. This is like an anti-shim device that must be moved out of the way before the bolt can be pulled into the lock case. This is accomplished by the black ceramic nut. It has a dogging pin on the bottom. When the motor starts to turn, this pin is pulled up and hooks the anti-shim device below the bolt. When the nut has turned a few turns, the pin moves this device out of the way and allows the bolt to be pulled into the lock.

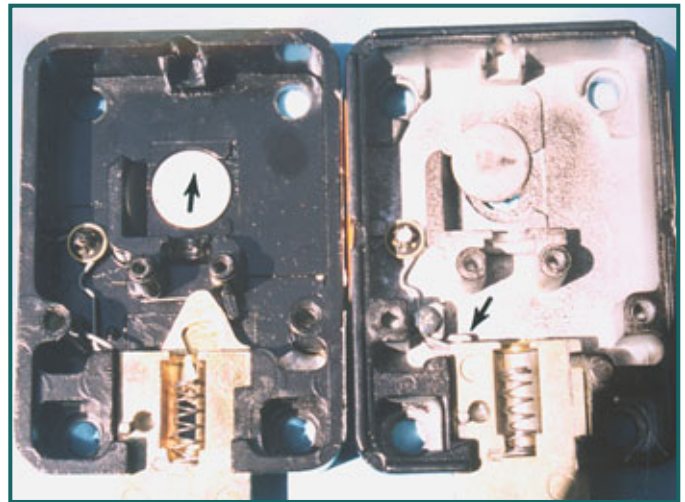
The arrow in the lock on the left is on the hardened disk that prevents successful motor drilling. This disk in the right lock has been moved slightly to show the formed depression that the disk fits in. In the right hand lock the arrow points out the position of the relock spring wire. If the motor is punched, you will have to drill for this location. But, if the motor has been punched, the bolt is still in position. Unless you want to drill for the relock pin



8. 6123 on the left (Black case). Arrow on the middle lock points to interior relock spring retainer. Motor must be punched before relock goes off.

wire and remove it, you will still have to move the bolt somehow. My thought would be to just punch the bolt.


The location for the relock wire on the 6120 and the 6123 locks is 1/2" right and 1" towards the bolt for a Vertical Down Lock. Once you see the wire, it must be pried out of the way. Not much movement is required to relocate the wire and clear the end of the bolt.



9. Arrow on 6123 (Left) lock points to the hardened disk that protects motor armature, while arrow on the right points to the activated relock spring wire that prevents the bolt from entering the lock case and keeps the unit locked.

For more information on S&G locks, contact:

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Tom Seroogy

by

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Randy Mize



2001 MITSUBISHI Galant

— part 1 —

Servicing procedures
for this popular vehicle



1. Like many newer vehicles, a diagnostic tool is required to program keys into the 2001 Mitsubishi Galant.

118 • Visit www.TheNationalLocksmith.com

Overview

Like most other vehicles today, the highest hurdle in working on the 2001 Mitsubishi Galant is programming the keys once they are made. Unfortunately, on board programming is not available on this model and Mitsubishi's MUTII diagnostic tool is required. (See *photograph 1.*)

Up until recently, the MUTII was available only through unauthorized channels, making access to the tool extremely difficult. Today, however, the MUTII is available through Lockmasters Inc., currently the only known authorized distributor of the tool into the locksmith market.

Opening

Unlike key programming, opening the Galant is an easy task. Simply wedge the window back by placing a wedge between the door and the window, directly above the handle. (See *photograph 2.*) Using a hook tool, bind and grasp the rod controlling the interior lock button. (See *photograph 3.*) Slide the rod to unlock the door.

Key Generation

Generating the mechanical keys for the Galant can be accomplished in one of several ways. The simplest and most effective means is to use either the Determinator (see *photograph 4*) or the SKT Wafer Reading tool (see *photograph 5*) to read the bitting of the door lock, and progression the ignition. If these tools are not available, opening the trunk and removing the deck trim allows an easy view of the trunk lock tumblers. Finally, the door lock can be removed and a key generated.



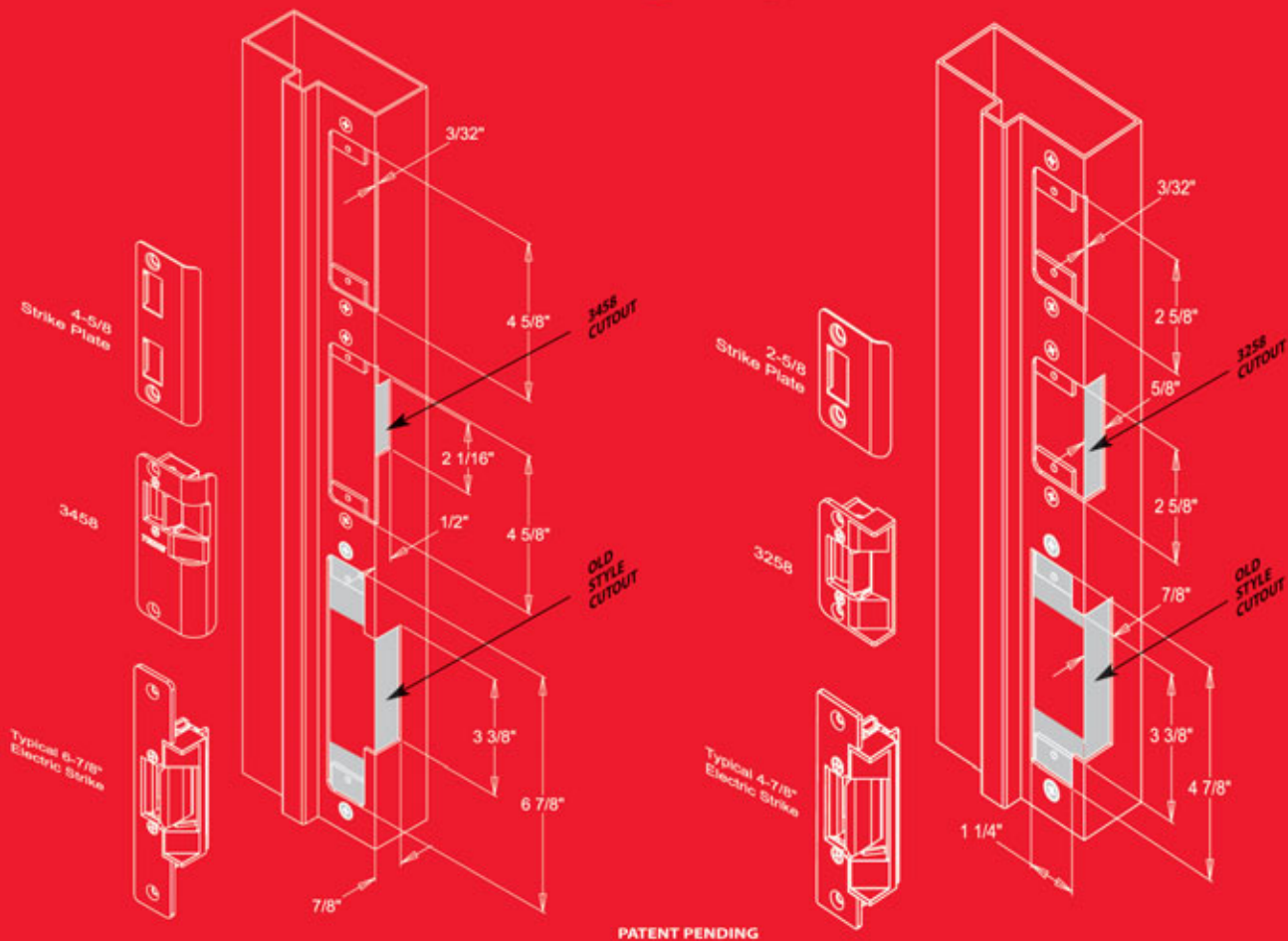
2. Place a door wedge above the handle.



3. Insert a hook tool into the door and grasp the inside lock button rod.

Continued on page 120

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4. The Determinator allows quick and easy reading of most automotive locks.



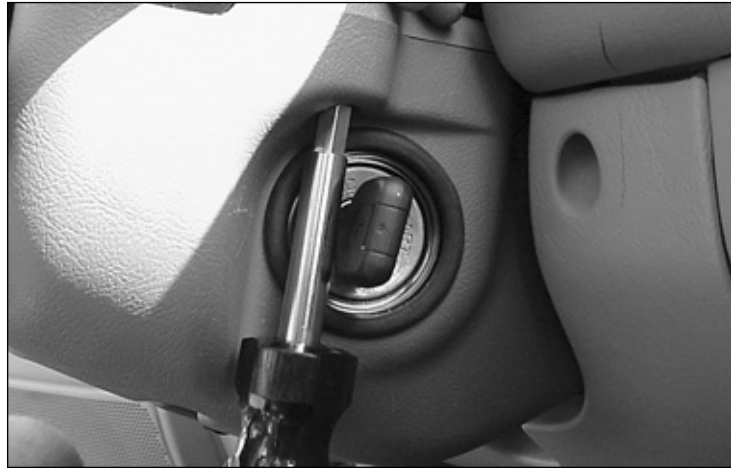
5. Using the SKT Wafer Reader is another lock reading device designed specifically for fast and easy key generation.



6. The Galant ignition lock is typical of all Mitsubishi push-button retained locks.



7. Begin ignition lock removal by separating the column shroud.



8. Don't forget this single screw before separating the shroud halves.

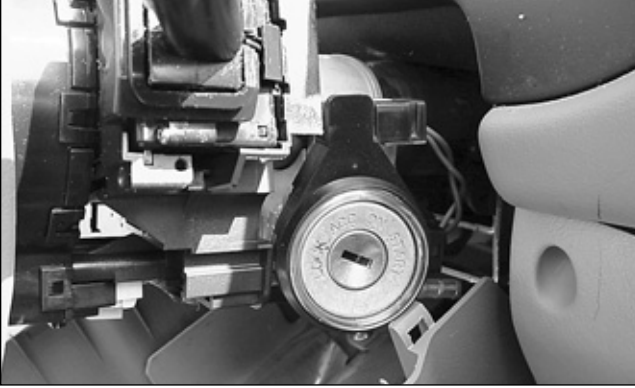


9. The column shroud halves can now be separated and removed.

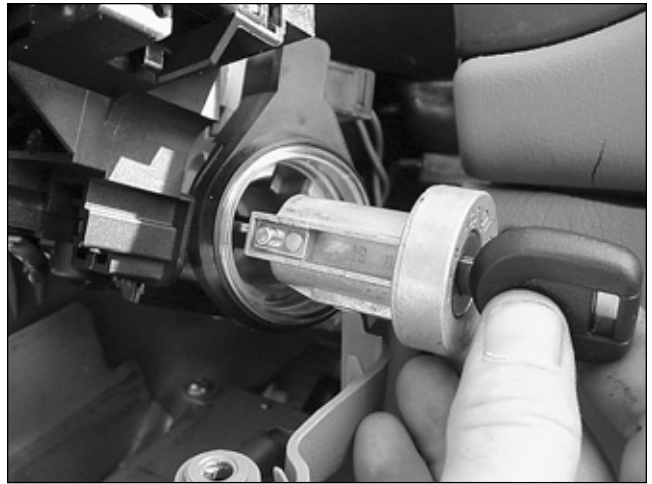
Ignition Lock

The ignition lock on the Galant is a push-button retained lock, and its removal is typical of all Mitsubishi locks. (See *photograph 6.*) When accessing the retainer it is first necessary to remove the two-piece shroud. Using a #2 Phillips screwdriver, the shroud screws can be accessed from beneath the column. (See *photograph 7.*) A mounting screw found just above the face of the ignition lock is sometimes missed. (See *photograph 8.*)

With all shroud screws removed, the shroud halves can be separated. (See *photograph 9.*) With the shroud halves removed, the transceiver (antenna) for the transponder



10. The transceiver or antenna of the transponder system is now visible. Although visible, it is not necessary to remove or otherwise alter this part.



12. Remove the lock.



11. Insert a mechanical key or pick the lock to the ON or RUN position and depress the lock's retainer.



13. The lock on the Galant is part of the door's handle.

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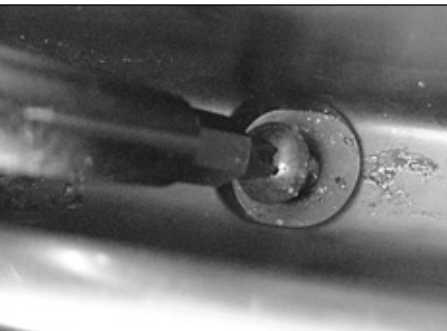
1115 So. Broadway • Dayton, Ohio 45408



14. Although it is not necessary to remove the entire door handle, the door handle does have to be removed to access the door lock.



17. And remove the door handle.



15. Remove the screw found at the bottom of the pocket on the armrest.

Finally, remove the rest of the small screws found around the perimeter of the panel. (See photograph 18.) Small caps that first need to be removed cover some of these screws. (See photograph 19.)

With all of the panel screws and trim removed, the panel is removed from the door. (See photograph 20.) Pull back the corner of the vapor barrier to access the door lock. (See photograph 21.)

While the lock is easily visible at this time, to make it easier to remove the lock, first unclip and drop the linkage rod attached to the lock's pawl. (See photograph 22.) Using a straight blade screwdriver, gently pry the lock's retainer clip back off the handle. (See photograph 23.) As prying begins, the clip separates slightly, allowing the lock to slide out of the handle. It is not necessary to completely remove the clip. (See photograph 24.)

On the back of the lock, an electric micro switch is attached. (See photograph 25.) Removing the switch is simply a matter of gently prying up on the tabs that retain the switch to the back of the lock. (See photograph 26.)

While some Mitsubishis have the car's key code stamped on the case of the passenger door lock, this particular feature is missing on this lock. If making a key,



16. Remove the door handle mounting screw....

system can be seen encircling the lock. (See photograph 10.)

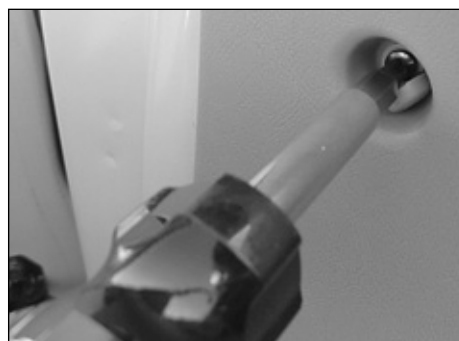
To complete the lock removal, use a mechanical key to turn the lock to the ON or RUN position and depress the lock's retainer. (See photograph 11.) If a key is not available, or the lock cannot be picked, drill through the face of the lock and remove the retainer pin. With the retainer depressed, the lock is removed. (See photograph 12.)

Door Lock

The lock on the Galant is part of the door handle. (See photograph 13.) Although it is not necessary to completely remove the door handle, the door's trim panel does have to be removed to access and remove the lock. (See photograph 14.)

Begin panel removal by removing the small screw found at the bottom of the cup or pocket on the armrest. (See photograph 15.)

Next, remove the inside handle mounting screw. (See photograph 16.) Remove the handle. (See photograph 17.)



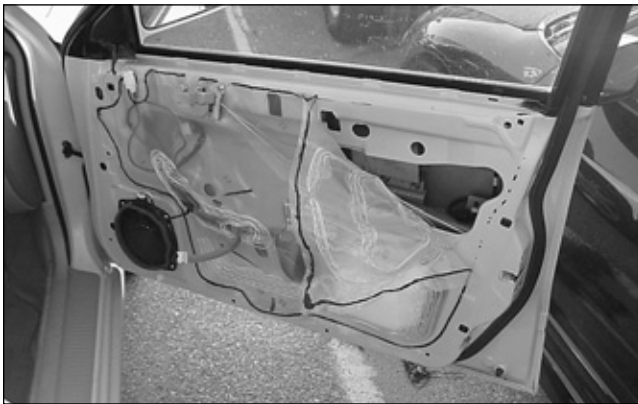
18. Remove the panel screws that can be found around the perimeter of the panel.



19. Small caps cover some of these screws.



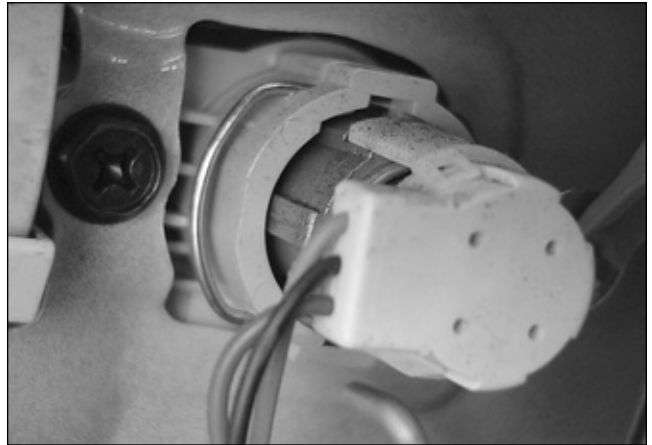
20. Drop the door panel.



21. Pull down the corner of the vapor barrier to access the door lock.



22. The lock is easily accessed. Removing the lock rod makes removal easier.



23. Gently pry the lock's retainer clip to release the door lock.

6, 3 1 6, 8 4 5

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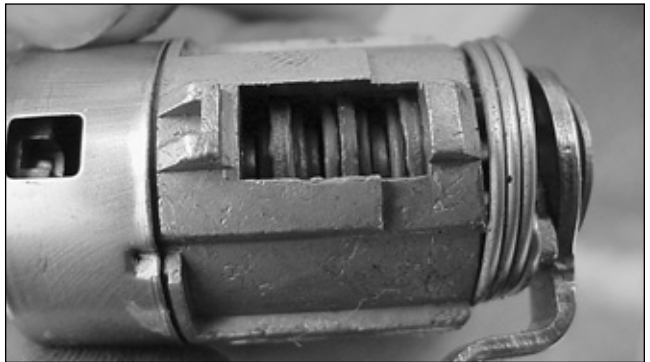




24. The lock is easily slid out of the handle.



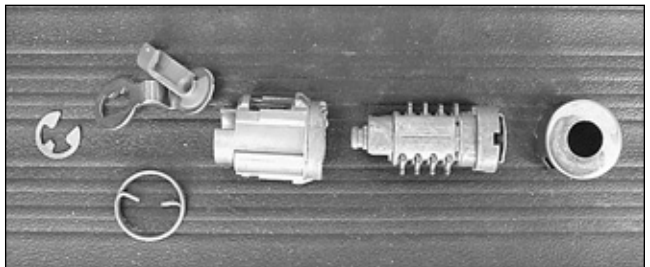
26. The two tabs on this switch hold it to the lock. Carefully pry these tabs up to remove it from the lock.



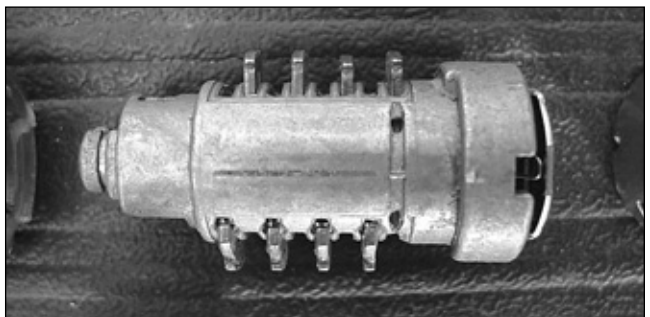
27. The lock can be read through its weep or drain hole.



25. A micro switch is attached to the back of the lock, and must be removed before lock disassembly can be performed.



28. The disassembled lock.



29. The Galant door lock uses an opposing wafer lock system.

the lock tumblers can be read through the weep or drain hole. (See photograph 27.) If service or rekeying is required, simply disassemble the lock to service. (See photograph 28.) The Galant door lock uses an opposing wafer lock system. (See photograph 29.)

Next month we will cover the trunk lock, key programming, programming procedures, remote programming, key fob programming, and specifications.

For more information on servicing the Galant, STRATTEC service parts or transponder equipment and supplies, contact Tom Seroogy or Randy Mize at Lockmasters Inc., (800) 654-0637 x342.



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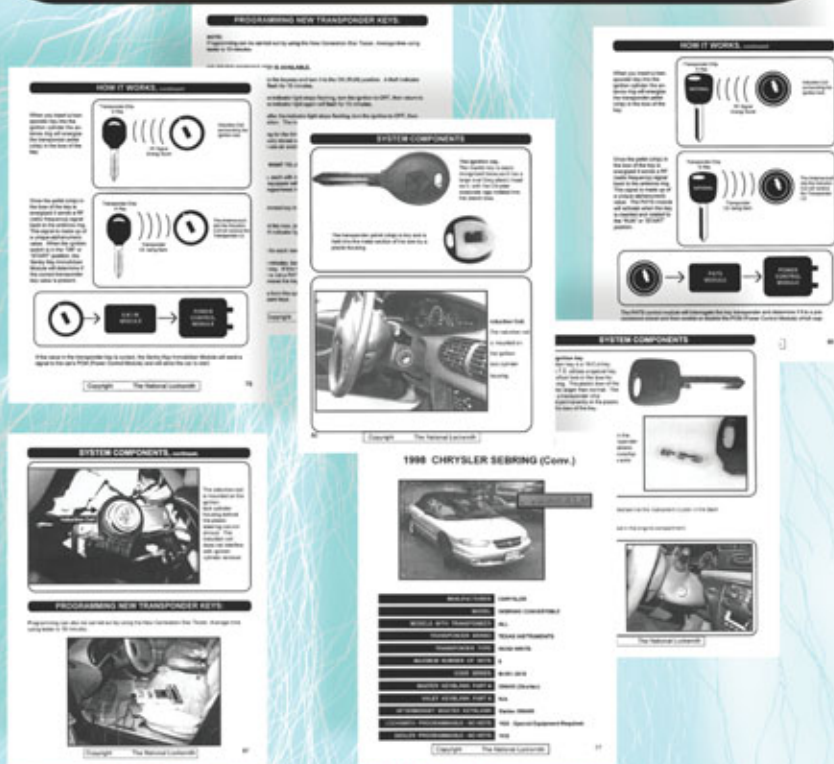
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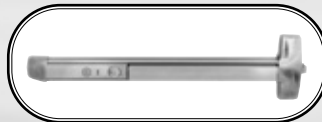
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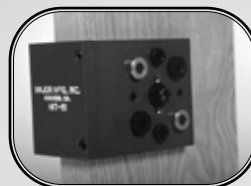
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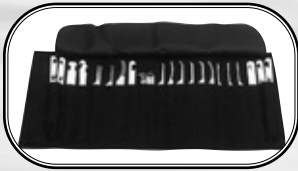
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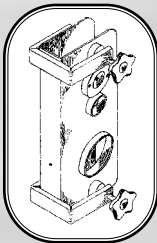
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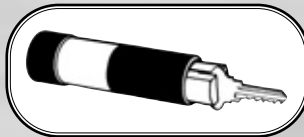
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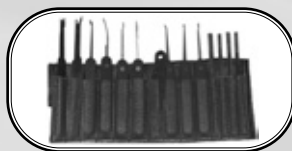
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*Larry Teal, CPL
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I came up with a real killer extraction tool for broken keys. I can only describe it, as I have no scanner to send a picture of it. It consists of a piece of spring steel about .050 by .020, and about four inches long. The tip looks like a hook type broken key extractor, except that the tip is rounded.

It works best when both parts of the key are present. With the "head" end in hand and the tip in the lock, I put the remains of the key into the lock and slide the tool along one of the grooves with the hook side facing the nearest edge of the key. When it gets to the tip of the broken part, it will lock on like a bulldog. Push in on the head of the key, pull on the tool, and pick the tip of the key off the car floor.

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**by Jake
Jakubowski**

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Now, I'm faced with a new set of problems.

Too many folks are falling into the habit of zipping something to me via email and fail to give me important information that I need. Like their "Real" names, physical addresses, telephone numbers, zip codes and even their business name! Instead I get things like Donslocks, Lockenup, LOCKDOC and Keymania. Great screen names, but they don't tell me who the person is, how to contact them or where to send the prizes if they don't give me a physical address!

Back in the days of purely snail mail, folks would sometimes forget to put a return address on an envelope or leave out a last name, or even forget to sign their letter altogether. With the advent of e-mail, the problem is even worse!

Either I, or someone at *The National Locksmith* tries to contact these folks and their e-mail address is often either defective, changed, undeliverable or whatever. Then we have to try to backtrack and spend time on the phone, or go through subscription lists and try to find out whom the tip belongs to.

Or, we can print the tip and sign it with the screen name from the sender only to get a call (or an e-mail) from the original tipster telling us someone "plagiarized" his or her tip! Or, a prize gets sent to the wrong person, or there are other problems. For the last nine-and-a-half years, I've devoted a lot of column inches to literally *begging* tipsters to make sure they include their full name, their business name, their physical address and a phone number when they send a tip in. Most tipsters do just that and we've eliminated a lot of problems. Now, we're getting a lot more tips, especially, via e-mail where that information is not complete. In fact it is often non-existent!

So here's the New Deal: We are going to continue offering great monthly prizes and fantastic year-end prizes (prizes that have an aggregate value in the tens of thousands of dollars a year) and keep publishing the best Technitip column in the industry. But there's going to be a new rule. If your tip—however you send it to us—does not contain your Name, Mailing Address (no P.O.'s) City, State, Zip Code, and Phone Number, your tip WILL NOT get printed!

We will continue to do the editing, the "dressing up", fixing the graphics and trying to make the tip more clearly appealing - but you are going to have to give us the information we need! Please help us, help you to get the prizes you deserve and continue to make this column one of the most popular columns in the magazine.

See y'all next month!

Weiser shims, which I have shaped like a knife to raise tumblers.

I have only used it twice, and surprised myself both times. It just seems too easy.

*Ed Roberts
California*



**STRATTEC WINNER:
Removing Plug
From GM Glove
Box Lock
To Decode**

This tip applies to a certain type of glove box lock found on several GM models from approximately 1957–1966. The lock is characterized by a plain keyway that pushes in (when unlocked) to unlatch the door. Unlike the more typical GM glove box lock, there is no poke hole in the housing to remove the plug.

First, the lock needs to be picked clockwise to the unlocked position. This leaves the keyhole horizontal and pointing to 9 o'clock. There is a small tab in a cutout at the top rear that is accessed by pulling back on the hook-

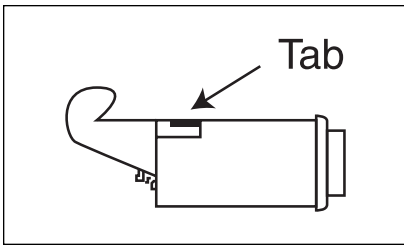


Illustration A.

shaped latch. (See illustration A.) This tab must be moved to the rear about 1/8", allowing the plug to rotate another 90°, by picking, until the keyhole is pointing straight up. At this point, the plug can be removed.

The plug should have a code on it. If not, there will be 5 wafers allowing you to cut the last 5 cuts on a blank and then progress the first cut to match the doors and trunk.

*Jim Troeller
California*



**HPC WINNER:
Air Wedge Leak
Takes a Powder**

I have an air wedge that I use almost every day. One day I discovered that it was leaking air at one of the seams. I thought about how to fix it and came up with this idea. Since I wear dentures I have plenty of powdered denture adhesive. I took the bulb off the wedge and poured some denture adhesive inside. I then replaced the

bulb and pumped it up. I kept pumping it up until the powder got into where the leak was.

When ever you pump up air into confined spaces the water content, in the air, condenses and makes moisture. I was counting on that happening and activating the denture adhesive. It did! The leak stopped.

Then I deflated the air wedge and took off the bulb and poured out the excess powder and replaced the bulb. This is a truly quick fix. I don't know if the repair is permanent, but it lasted until I could get a new Air Wedge.

*W.T. Smith
Texas*



**SARGENT AND
GREENLEAF WINNER:
VATS Interrogation Tip**

Have you ever had to interrogate a VATS ignition switch?

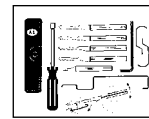
Do you start at "2" (1 was only used in 1986) and go through to "15"? Or, do you start in the middle and go 8, 9, 10, 11, etc.?

Using the records of the VATS blanks that we order, I did a little research and determined what VATS blanks we not only used the most of, but the frequency with which we used them.

I'm not claiming this is scientific by any means, but it does work for us and it seems to speed up the interrogation process for us. Based on our purchase records and other information, here are our most commonly used VATS keys and their order (from left to right) of frequency. 13, 9, 14, 8, 11, 7, 10, 15, 3, 2, 12, 4, 5, 6

Of course, you may want to develop your own chart. Regardless, you will find that knowing your most frequently used keys speeds up working on these ignitions and saves you money.

*Randy Burr
Oklahoma*



**A-1 SECURITY
PRODUCTS WINNER:
Ford 8-cut Trunk
Spring Tip**

When requested to rekey or service the 8-cut trunk lock for vehicles such as the 2002 Mustang or Grand Victoria, I find it sometimes frustrating to re-install the return spring in the back of the lock. If you've ever dismantled one, you know that the spring comes out much easier than it goes back in.

I have designed a simple tool made from a hollow metal tube (5/16" O.D.) that allows me to re-install this spring in less than a minute.

The tube I used is from a Mas-Hamilton X07 lock. The tube is .308" in diameter and works perfectly for this application. I assume that a similar tube is available from any hobby shop or hardware store. Just remember: size is important. If the tube is too large, the tube will not fit into the last coil of this tapered spring, and if it is too small, the spring will not clasp the tube and stay on. Also, the walls of the tube must be thin, so that the nipple at the end of the lock will slide into the tube easily.

The tool is simple to make. Use a warding file to file a square notch 1/16" deep into one side of the tube on either ends. (See illustration B.) To use the tool: place the lock in a

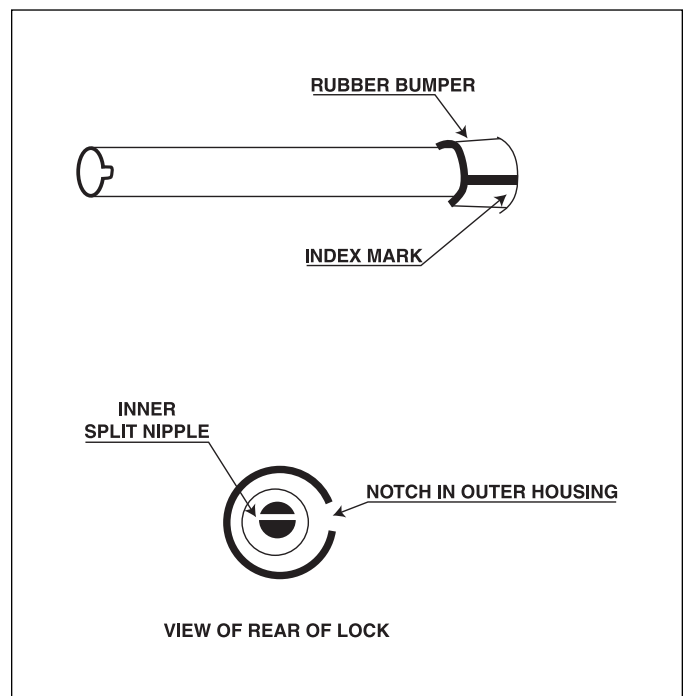


Illustration B.

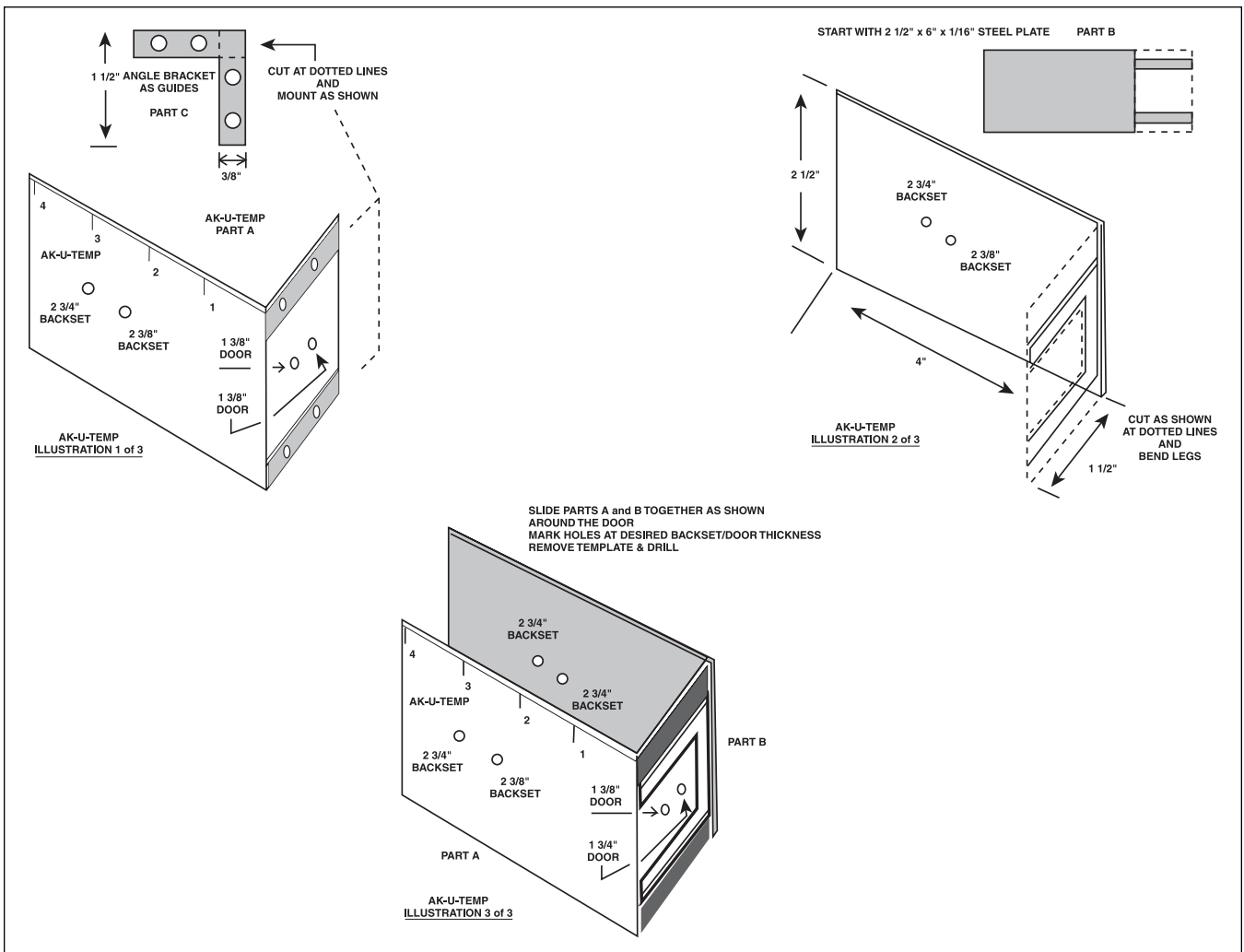


Illustration C.

wise so you have both hands free. Place the tailpiece on the inner end of the spring. Place the tube over the tailpiece and the notch over the spring wire end.

Hold this together and orient it over the back of the lock so that the notch side of the tube is opposite the cutout in the outer lock housing where the other end of the spring is to engage the lock.

Do not attempt to wind the spring at this point. The object here is to blindly push the spring straight into this housing and engage the spring into the cutout in the nipple at the back of the lock. This will stretch the spring and draw the other end of the spring into the housing.

With the other hand, use a pair of needle-nosed pliers and rotate the end of the spring closest to you clockwise about 1/4 turn, to the opening in the housing where it belongs. That should get the spring back in place for you.

It will take you a couple of times to get the feel of the tool, but it does

work very well. I also suggest that you buy a small rubber bumper cover (like that which would go over a doorstep) to cover the other end of the tube and protect your hand and fingers when you are pushing the tube into a housing. I would also suggest marking the side of the tube in line with the notch in order to help align the tube-spring-tailpiece and nipple.

*Timothy S. Boyea
Wisconsin*



**ILCO KEYBLANKS
WINNER:
AK-U-TEMP
Modification**

As most of you are aware, the AK-U-TEMP is an anodized aluminum template used to mark drill locations for deadbolts and knob sets. I have found many uses for this tool; including (as I once wrote in a tip) how to use it to mark cam lock locations.

This tip concerns modifying the AK-U-TEMP to mark my drill points on *both* sides of a door without having to "flip" the tool and re-align it to make

sure the bore holes will be in their proper positions.

The first thing I did was cut an angle bracket to obtain two pieces of metal with the screw holes, as shown. (See *illustration C.*) I secured each of these pieces to the edge bore side of the AK-U-TEMP, with screws cut off flush with the back of the tool. Next, I cut a steel plate to size and placed the backset holes where I wanted them. Then I cut the "tabs" as shown—and with a little heat applied to the metal, I bent them 90°.

After the metal cooled down and I made some minor adjustments to the legs, I attached this piece to the edge bore face of the AK-U-TEMP as per the illustration.

I find this modified tool very handy for quickly marking my borehole locations, and it serves me very well where decorative panels and window stiles and trim prevent me from utilizing a standard boring jig.

*John Marske
California*



**KEEDEX WINNER:
A Super, Supra Tip**

Recently *The National Locksmith* published the number of possible combinations for the Supra Stor A Key push-button key storage boxes. I

wrote a small computer program that lists all of the possible combinations. (See illustration D).

You will notice that the combinations are not in numeric order. I made the program move the combinations ending in "0" to the end of each sequence. That

way you can push the buttons in order as listed on the front of the Stor A Key keypad. Since the number "1" on the keypad is first and the number "0" is last. That will make number entry much faster.

*David Taylor
Oklahoma*

**ALL SUPRA PUSHBUTTON COMBINATIONS POSSIBLE
TO USE - PUSH CLEAR THEN ENTER THE COMBINATION AND PUSH OPEN
IF IT DOESN'T UNLOCK - PUSH CLEAR AND ENTER THE NEXT COMBINATION**

1 DIGIT	3 DIGITS	4 DIGITS	5 DIGITS	6 DIGITS	7 DIGITS	8 DIGITS
1	123 270	1234 1570 3456	12345 13469 23456 25790	123456 134567 234680	1234567 1345680	12345678 1345679
2	124 289	1235 1589 3457	12346 13460 23457 25890	123457 134568 234690	1234568 1345690	12345679 12345680
3	125 280	1236 1580 3458	12347 13478 23458 26789	123458 134569 234789	1234569 1345789	12345680 12345679
4	126 290	1237 1590 3459	12348 13479 23459 26780	123459 134560 234780	1234570 1345780	12345679 12345680
5	127 345	1238 1678 3450	12349 13470 23450 26790	123450 134578 234790	1234571 1345790	12345680 12345690
6	128 346	1239 1679 3467	12340 13489 23467 26890	123467 134579 234890	1234572 1345800	12345690 12345789
7	129 347	1230 1670 3468	12356 13480 23468 27890	123468 134570 235678	1234573 1345789	12345789 12345680
8	120 348	1245 1689 3469	12357 13490 23469 34567	123469 134589 235679	1234574 1345780	12345680 12345790
9	134 349	1246 1680 3460	12358 13567 23460 34568	123460 134580 235670	1234575 1345790	12345680 12345890
0	135 340	1247 1690 3478	12359 13568 23478 34569	123478 134590 235689	1234576 1345800	12345680 12345900
	136 356	1248 1789 3479	12350 13569 23479 34560	123479 134678 235680	1234577 1347890	12345680 12346789
	137 357	1249 1780 3470	12367 13560 23470 34578	123470 134679 235690	1234578 1356789	12346789 12346780
	138 358	1240 1790 3489	12368 13578 23489 34579	123489 134670 235789	1234679 1356780	12346780 12346790
	139 359	1256 1890 3480	12369 13579 23480 34570	123480 134689 235780	1234678 1356790	12346789 12346890
	140 350	1257 2345 3490	12360 13570 23490 34589	123490 134680 235790	1234679 1356789	12346780 12347890
	145 367	1258 2346 3567	12378 13589 23567 34580	123567 134690 235890	1234680 1356890	12346789 12356789
	146 368	1259 2347 3568	12379 13580 23568 34590	123568 134789 236789	1234681 1367890	12356789 12356780
	147 369	1250 2348 3569	12370 13590 23569 34678	123569 134780 236780	1234680 1456789	12356789 12356790
	148 360	1267 2349 3560	12389 13678 23560 34679	123560 134790 236790	1234790 1456780	12356890 12357890
	149 378	1268 2340 3578	12380 13679 23578 34670	123578 134890 236890	1234890 1456790	12357890 12367890
	140 379	1269 2356 3579	12390 13670 23579 34689	123579 135678 237890	1235678 1456890	12367890 12367890
	23 156 370	1260 2357 3570	12456 13689 23570 34680	123570 135679 245678	1235679 1457890	12356789 12456789
	24 157 389	1278 2358 3589	12457 13680 23589 34690	123589 135670 245679	1235670 1467890	12456789 12456780
	25 158 380	1279 2359 3580	12458 13690 23590 34789	123580 135689 245670	1235689 1567890	12456789 12456790
	26 159 390	1270 2350 3590	12459 13789 23590 34780	123590 135680 245689	1235680 2456789	12456890 12457890
	27 150 456	1289 2367 3678	12450 13780 23678 34790	123678 135690 245680	1235690 2345679	12457890 12457890
	28 167 457	1280 2368 3679	12467 13790 23679 34890	123679 135789 245690	1235789 2345670	12456789 12456790
	29 168 458	1290 2369 3670	12468 13890 23670 35678	123670 135780 245789	1235780 2456890	12456789 12567890
	20 169 459	1345 2360 3689	12469 14567 23689 35679	123689 135790 245780	1235790 2345680	13456789 13456780
	34 160 450	1346 2378 3680	12460 14568 23680 35670	123680 135890 245790	1235890 2345690	13456789 13456790
	35 178 467	1347 2379 3690	12478 14569 23690 35689	123690 136789 245890	1236789 2345789	13456789 13456890
	36 179 468	1348 2370 3789	12479 14560 23789 35680	123789 136780 246789	1236780 2345780	13456789 13457890
	37 170 469	1349 2389 3780	12470 14578 23780 35690	123780 136790 246780	1236790 2345790	13456789 13467890
	38 189 460	1340 2380 3790	12489 14579 23790 35789	123790 136890 246790	1236890 2345890	13467890 13567890
	39 180 478	1356 2390 3890	12480 14570 23890 35780	123890 137890 246890	1237890 2346789	13567890 14567890
	30 190 479	1357 2456 4567	12490 14589 24567 35790	124567 145678 247890	1245678 2346780	14567890 23456789
	45 234 470	1358 2457 4568	12567 14580 24568 35890	124568 145679 256789	1245679 2346790	23456789 23456780
	46 235 489	1359 2458 4569	12568 14590 24569 36789	124569 145670 256780	1245680 2346890	23456789 23456790
	47 236 480	1350 2459 4560	12569 14678 24560 36780	124560 145689 256790	1245689 2347890	23456790 23456890
	48 237 490	1367 2450 4578	12560 14679 24578 36790	124578 145680 256890	1245690 2356789	23456890 23457890
	49 238 567	1368 2467 4579	12578 14670 24579 36890	124579 145690 257890	1245690 2356780	23457890 23467890
	50 239 568	1369 2468 4570	12579 14689 24570 37890	124570 145789 267890	1245789 2356790	23467890 23567890
	46 230 569	1360 2469 4589	12570 14680 24589 45678	124589 145780 345678	1245780 2356890	23567890 24567890
	57 245 560	1378 2460 4580	12589 14690 24580 45679	124580 145790 345679	1245790 2357890	24567890 34567890
	58 246 578	1379 2478 4590	12580 14789 24590 45670	124590 145890 345670	1245890 2367890	
	59 247 579	1370 2479 4678	12590 14780 24678 45689	124678 146789 345689	1246789 2456789	
	50 248 570	1389 2470 4679	12678 14790 24679 45680	124679 146780 345680	1246780 2456780	
	67 249 589	1380 2489 4670	12679 14890 24670 45690	124670 146790 345690	1246790 2456790	
	68 240 580	1390 2480 4689	12670 15678 24689 45789	124689 146890 345789	1246890 2456890	
	69 256 590	1456 2490 4680	12689 15679 24680 45780	124680 147890 345780	1247890 2457890	
	60 257 678	1457 2567 4690	12680 15670 24690 45790	124690 156789 345790	1256789 2467890	
	78 258 679	1458 2568 4789	12690 15689 24789 45890	124789 156780 345890	1256780 2567890	
	79 259 670	1459 2569 4780	12789 15680 24780 46789	124780 156790 346789	1256790 3456789	
	70 250 689	1450 2560 4790	12780 15690 24790 46780	124790 156890 346780	1256890 3456780	
	89 267 680	1467 2578 4890	12790 15789 24890 46790	124890 157890 346790	1257890 3456790	
	80 268 690	1468 2579 5678	12890 15780 25678 46890	125678 167890 346890	1267890 3456890	
	269 789	1469 2570 5679	13456 15790 25679 47890	125679 234567 347890	1345678 3457890	
	260 780	1460 2589 5670	13457 15890 25670 56789	125670 234568 356789	1345679 3467890	
	278 790	1478 2580 5689	13458 16789 25689 56780	125689 234569 356780	1345670 3567890	
	279 890	1479 2590 5680	13459 16780 25680 56790	125680 234560 356790	1345671 4567890	
		1470 2678 5690	13450 16790 25690 56890	125690 234578 356890		
		1489 2679 5789	13467 16890 25789 57890	125789 234579 357890		
		1480 2670 5780	13468 17890 25780 67890	125780 234570 367890		
		1490 2689 5790		125790 234589 456789		
		1567 2680 5890		125890 234580 456780		
		1568 2690 6789		126789 234590 456790		
		1569 2789 6780		126780 234678 456890		
		1560 2780 6790		126790 234679 457890		
		1578 2790 6890		126890 234670 467890		
		1579 2890 7890		127890 234689 567890		

Illustration D.



**TECH TRAIN
TRAINING VIDEO
WINNER:
Making An Impact
on Bolts**

I used to be a machinist and had to drill out a lot of oversized bolts, pins, shafts, etc. These usually had a diameter of over 1". After I had step drilled all the way up to the largest drill I could get into the 1/2" chuck, I would try an "easy out" but it rarely worked as rust and corrosion had often set in and the bolts were practically welded in. Also, the large easy outs tended to snap off if you torque them too hard. I would then have to find a drill larger than 1/2" that had a shank with no taper and turn it down on the lathe so it would fit in the chuck. This was time consuming, and the drill tended to wobble.

The biggest problem with electric drills is that they would grab and sometimes snap the drill bit off in the bolt. The bigger the drill the more torque it had, and the more prone it was to snapping the bit.

I found an electric impact wrench that had a 5/8" Morse taper attachment included with it. You can find drills for machinist work that go

over the usual 1/2" inch drill, but most have Morse tapers for lathe work to fit into a lathe's tail-stock. These larger drill bits won't fit into a conventional electric drill because of the taper.

With the electric impact wrench and Morse taper attachment, I could use all those drills I couldn't use before and step drill almost all the way up to the diameter of the bolt, shaft or pin I was trying to drill out. The added benefit of the electric impact wrench was that it never grabbed like an air impact wrench that just kept turning even when it got to the end of the bolt. I just thought I'd pass this on, as I am sure there are applications for the idea in safe work and other areas of locksmithing.

*Cal Ferguson
Japan*



**SIEVEKING
PRODUCTS GM E-Z
WHEEL PULLER
WINNER:
Shroud removal on
a Saturn**

I used to have trouble finding a socket to remove the screws on the Saturn shrouds, until I discovered an easy method. Better yet, it's a tool that every locksmith already possesses. It's a .395 diameter following tool that is slotted at one end. The slot fits over the hex-headed screw perfectly. If they don't twist out by hand, clamp on a pair of vise grips.

Furthermore, if you need to remove the ignition lock, here is another tip. After removing the shroud, remove the lock bezel. A medium, flat tipped screwdriver is used with a twisting action as you work around the backside of the bezel. Once it is off, you can now see the top of the housing of the lock where the retainer is located. By prying under both ends of the retainer, first with a jeweler's screwdriver then with an ice pick, you can pull the retainer out. This is a newer GM style lock. If you're lucky, the spring steel tab won't break and you can reuse the lock after repairing it.

My customer was very happy that I could not only remove her stuck key (was cut on the wrong blank at 99 cent store), but also saved her the cost of a new ignition lock.

*Steve Zemba
California*



**MAJOR
MANUFACTURING
PRODUCTS
WINNER:
Squeeze Play Tip**

Sometimes when using the Squeeze Play to mortise a hollow metal door, I wind up with a "dimple" in one corner of the mortise, or a slight dimple along one edge. I have found a way to prevent that from occurring.

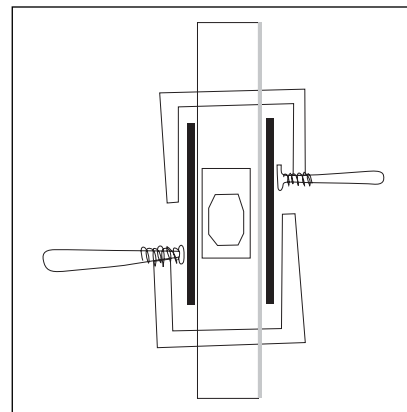


Illustration E.

I use two carpenter's clamps and two pieces of plywood. (See illustration E.) I mount the Squeeze Play, make sure it is aligned properly and snug it down. Then I place a piece of plywood on each side of the door in line with the Squeeze Play and tighten the clamps down to hold them in place.

Then, I simply remove the clamps and plywood and take the Squeeze Play off the door and have a nice clean mortise with no dimples.

*Sol Follman
New York*



**LAGARD WINNER:
Auto-Dialer Tip**

While using the ITL 1000 Auto Dialer, to prevent the dialer from damaging the safe dial, you have to keep the rubber padding in top condition.

If the rubber padding on the jaws come off, just replace the rubber with an old inner tube cut to fit. I use double-sided adhesive rubber from an old inner tube, cut to fit the four jaws to protect the dial and provide a good grip for the dialer.

If the surface of the safe doesn't allow for the use of the magnetic mounting paws, get a framing strap from the hardware store to hold the dialer to the safe. Most are large enough to wrap around even the largest of safes.

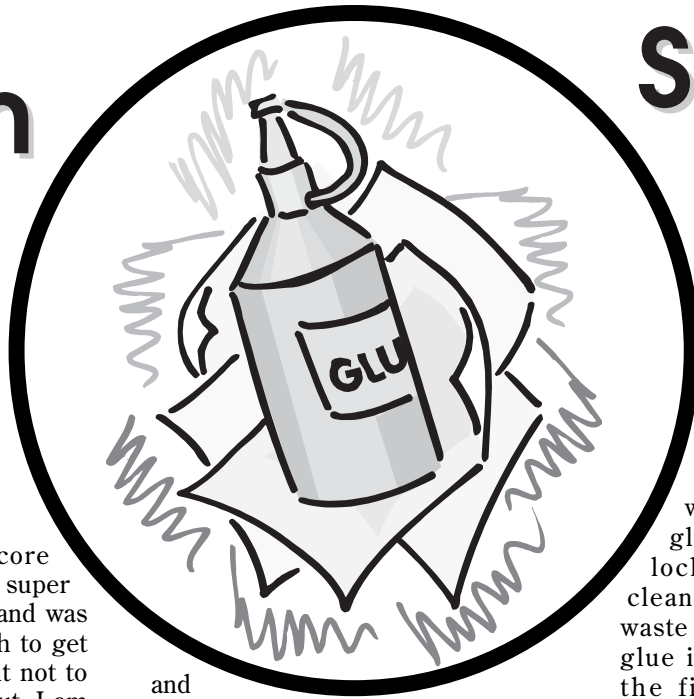
*Robert E. Temple, CJS
South Carolina*

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Super Glued Locks

AUTHOR: Don Probasco
(donsara@hilconet.com)

SUBJECT: Super Glued Locks

I have two Falcon I/C core entry locks that have been super glued. I have used acetone and was able to free the pins enough to get the control key to go in, but not to release the core to take it out. I am replacing the locks and will have time in the shop to work with these to try to remove the cores. Any ideas on removing the cores and saving the locks?

and penetrate to dissolve the glue.

glue would become a problem. A heat gun will work great to loosen the glue enough to remove the lock. I tried several ways to clean and most of it was just a waste of time if they put plenty of glue in the lock. If it were just the first couple of pins they would clean up with acetone.

AUTHOR: Donald S. Mohan
(donmohan@pikeonline.net)

SUBJECT: Super Glued I/Cores

Personally, I don't try to fix vandalized locks, Don. There's more profit and less grief in just selling them new ones.

AUTHOR: Raymond
(Compact45@Earthlink.Net)

Hey Don, if the above mentioned techniques do not work, take the opposite route...FIRE! Heat the cylinders up with a portable torch. I don't know, nor do I have any idea if it will work, but if anything it will be interesting. Maybe you can even write about it in *The National Locksmith* mag: "How our business burned down...thanks to forum suggestions."

AUTHOR: Dean Sperlin
(lightninglock@hotmail.com)

SUBJECT: Super Glued I/C Cores

Don, drill the lug off the IC core to remove it from the lock. New cores are about \$6.00 ea. For an idea of where to drill, get a new core and see where the lug sticks out. Drill on the upper left-hand side of the lower chamber, staying within the core, and shear the retaining lug off. Piece of cake!

AUTHOR: Ed
(llkey2@yahoo.com)

SUBJECT: Super Glue

Replace them. The time it takes to try and clean it up is not worth it.

AUTHOR: Ron
(pickman88@yahoo.com)

SUBJECT: Device to Clean

There is a machine that is called a "Mechanics Rinse." Use acetone and the machine will keep running with a spout that sprays the parts on a continual basis. It just recirculates the solution. Use it for 24 hours and it should work just fine.

AUTHOR: Guy Parr
(lynnscoff4@aol.com)

SUBJECT: Super Glue

Sometimes the reason why the locks were superglued can be more important than how to fix the problem. In some cases the locksmith who worked there last may have been paid with a bad check, or not paid at all. I am not saying that I condone this practice, I am merely saying it does happen. Therefore, anytime you come across a lock, which has been vandalized in this manner, you may want to be cautious about the method of payment. You don't want to be the next victim.

AUTHOR: Raymond
(Compact45@Earthlink.Net)

Hey Don, here's a suggestion that you may have already tried. There's this stuff called "Goo-Be-Gone" that you can purchase at almost any hardware store or supermarket. Try soaking the locks in this for a while. Also, try wrapping or jarring the cylinders sharply against a hard surface, or with a hammer. Sometimes this sudden "shock" will crack the glue loose enough to make more space for the solvent to get in

AUTHOR: Laurence E Teal
(Teallet@yahoo.com)

I worked at a university and every once in a while the super

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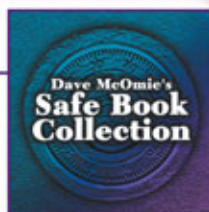
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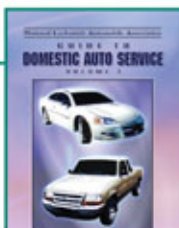


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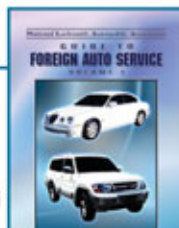


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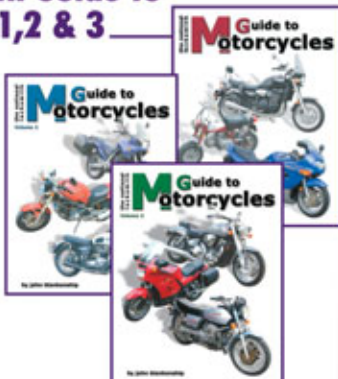
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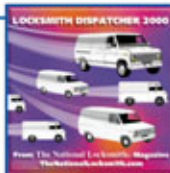
For years locksmiths have begged for a comprehensive service manuals on motorcycles, and they are finally here! Covering a wide range of service procedures, you'll know everything a locksmith needs to know about each cycle. Plus, you'll get step by step photographs and instructions. Both volumes available in two formats, book or CD-ROM. Special pricing if you order both. If you have ever been frustrated by cycles made by the following manufacturers, you'll need these comprehensive books: • BMW • Buell • Harley-Davidson • Honda • Kawasaki • Neiman • Suzuki • Triumph • Yamaha • Zodi



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ONE Shot, One KILL.

by Jym Welch, CJS, CPS

The hardest openings are the ones you've never done before. All your knowledge, experience and rhetoric are on the line. Opening a seldom seen safe like this Cox is such an experience. (See *photograph 1.*) A few days before the 2002 Empire Penetration Party, I had such an opening. Cox is an English made safe. This model has a unique boltwork system, utilizing two handles to control the bolts. (See *photograph 2.*) One handle operates the opening and bottom bolts. The

other operates the top and hinge side boltwork. One must be rotated before the other. (See *photograph 3.*)

Empire had purchased this safe with keys and a combination. Unfortunately, someone threw out the keys not only to this safe, but to an ISM Jewelers safe as well! Not having time to construct a pick for the key lock, I had to drill the key lock. Working at Empire Safe Company in New York City has one great advantage. It has thousands of safes in stock. I generally don't have to look up a safe in a book or manual. I just take a stroll around the warehouse and look for the safe I need, or a safe close to it. (See *photograph 4.*) I found four Cox safes in stock, and one of them was



1. A Cox safe with logo found on the back of the door.



2. This model has a unique boltwork utilizing two handles to control the bolts.



3. One handle operates the opening and bottom bolts. The other operates the top and hinge side boltwork.



4. Empire Safe has around 50 high security safes just in this row alone.



5. The DeBuse key lock.

exactly the same model I needed to open. I gathered all the information from that unit.

The Cox employs a DeBuse key lock. The DeBuse lock has 8 brass



6. With all the levers removed you can see that stump is attached to the locking plate.



7. I inserted a key taken from the lock at the warehouse to measure the lock depth.



8. My borescope slid through the opening side of the safe.



9. The hole drilled in the edge of the door.

levers sandwiched between two larger brass plates. The lock is an open construction style key lock. (See photograph 5.) This means the lock has no sides to it and can be easily accessed. The stump to this lock is pinned in place making it easily removed with a punch. (See photograph 6.) Knowing your target and how it works is half the task of opening any safe.

The best point to aim for when drilling this lock is the stump. Measuring from the door surface to the bottom of the key lock would reveal where I needed to

mark my drill point on the opening side of the safe. At the job site I inserted a key taken from the lock at the warehouse to measure the depth of the lock. (See photograph 7.) Marking the stem of the key at the door surface, I had the depth to the inside of the lock. Transferring that to the opening side of the safe, I then added the measurement for the stump location. (See photograph 8.) I marked the spot and got out my trusty StrongArm lever rig.

Drilling this safe was a lot easier than I thought it might be for an

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English safe. After piercing the outer skin, I ran right into the concrete layer. This spilled out nicely as the StrongArm drill bit worked it's magic, I was sailing through this material with ease. Just when I thought I was close to the inside skin of the safe, I ran into something hard. Dulling a few bits on this material, I tried water, oil, and then some punching. The only thing that seemed to get forward progress was water and a StrongArm drill bit. Punching seemed to help, but wasn't effective enough.

I switched the drill motor from drill to hammer drill. I flushed out the hole with water and changed from a 5/16" bit to a 1/4". Using light pressure, the bit cut it's way through in no time. Once through that layer, I switch the drill motor back to drill only. Staying with the 1/4" bit, it soon penetrated the inner skin, the door and finally the boltwork bar that moves the bolts. (See photograph 9.)

A quick peek down the hole, and all I saw was blackness. After running a scope and some light in, I then saw the boltwork and then



10. The DeBuse key lock mounted Vertical Down (VD).



11. The punch used to knock off the stump.




12. The stump is in good enough condition to be reinstalled and reused.

beyond that, the key lock. (See photograph 10.) I was squarely in line with the stump. Re-chucking the lever rig with a 5/16" StrongArm, the hole was widened to accommodate the punch I intended to use to knock off the stump.

I set the punch snugly against the stump and tapped with my 16 oz. ball peen hammer and gave it a couple of taps. (See photograph 11.) I heard the stump fall to the bottom of the door. (See photograph 12.) Once the stump was gone, I inserted the key I had brought with me from the key lock of the Cox safe at the warehouse, inserted it and withdrew the key lock bolt. The handles moved and the door swung open!

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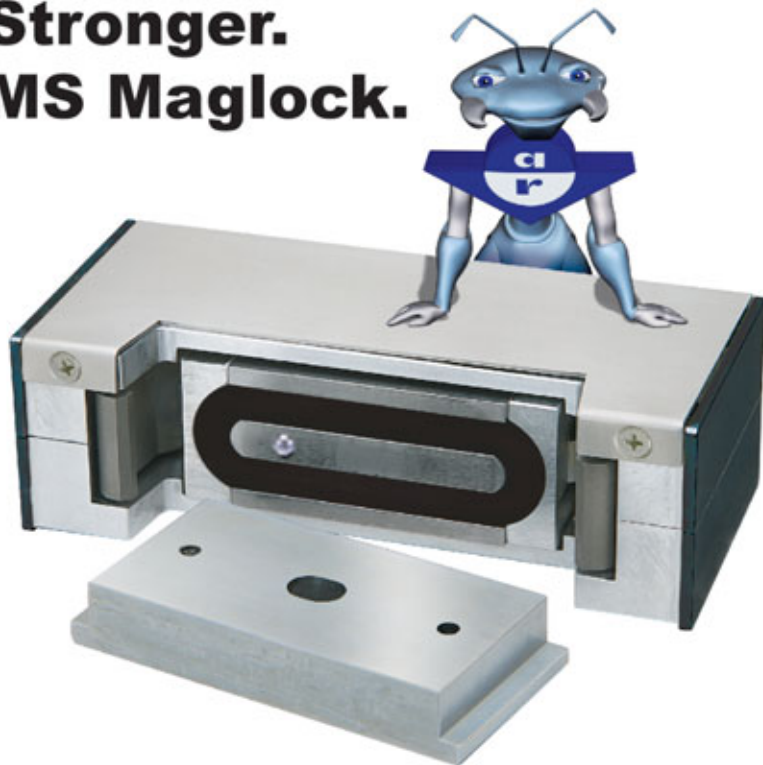
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1	305 120	1	690 272		1H1-1H4088	Y38	
2	505 199	2	640 252		2H1-2H2088	A86P	
3	705 278	3	590 232		3H1-3H600	EX14B	
4	905 356	4	540 213				
5	1105 435						
6	1305 514						
7	1505 593						
8	1705 671						
9	1905 750						
10	2105 829						

Align: Shoulder

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mm	Inch	mm	Inch	Jaw: A	Series	Alba	
1	305 120	1	690 272		1H1-1H4088	Y38	
2	505 199	2	640 252		2H1-2H2088	A86P	
3	705 278	3	590 232		3H1-3H600	EX14B	
4	905 356	4	540 213				
5	1105 435						
6	1305 514						
7	1505 593						
8	1705 671						
9	1905 750						
10	2105 829						

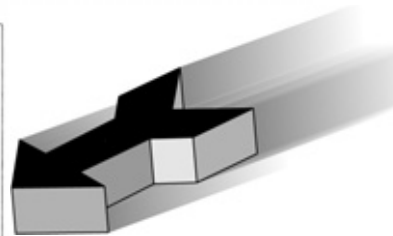
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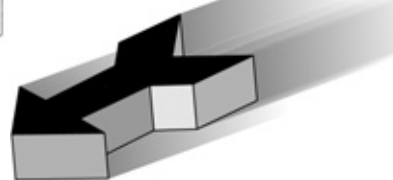
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KEY CODES



Dom 1H1-1H4088

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Code Series: _____ 1H1-1H4088

Key Blanks:

- Boerkey:** _____ 1056
- CEA:** _____ DO12
- Curtis:** _____ DO-12
- Dominion Lock:** _____ DM60
- Errebi:** _____ DM19
- HD:** _____ DM60
- Ilco:** _____ DM60
- JMA:** _____ DOM-120
- Key Line:** _____ DO12
- Kis:** _____ DOM31
- Kraga:** _____ Z345
- Lotus:** _____ DM62S
- Mr Minit:** _____ 118
- Orion:** _____ DO23
- RR:** _____ DM26
- Silca:** _____ DM17
- Taylor:** _____ X177

Number of Cuts: _____ 10

M.A.C.S.: _____ 2

Key Gauged: _____ Shoulder

Center of First Cut: _____ .120

Cut to Cut Spacings: _____ .079

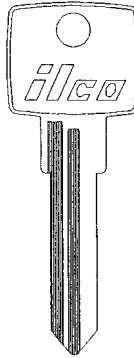
Cut Depth Increments: _____ .020

Spacings:

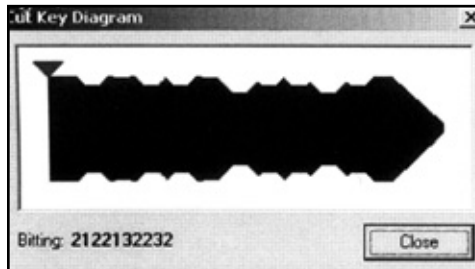
- 1 - .120
- 2 - .199
- 3 - .278
- 4 - .356
- 5 - .435
- 6 - .514
- 7 - .596
- 8 - .671
- 9 - .750
- 10 - .829

Depths:

- 1 = .272
- 2 = .252
- 3 = .232
- 4 = .213



DM60
DM60
DO23



HPC 1200Blitz

- Code Card:** _____ C104
- Jaw:** _____ A
- Cutter:** _____ CW-1011
- Gauge From:** _____ Shoulder

HPC 1200PCH (Punch)

- PCH Card:** _____ N/A
- Punch:** _____ PCH-1011
- Jaw:** _____ A

Silca UnoCode

- Card Number:** _____ 231
- Side:** _____ A
- Position:** _____ 0
- Vice/Adapter:** _____ V100 Std

HPC CodeMax

- DSD #:** _____ 509
- Jaw:** _____ A
- Cutter:** _____ CW-1011
- Gauge From:** _____ Shoulder

ITL 9000/9700

- Mfg. ID:** _____ 0
- Insert:** _____ 2

Framon #2

- Cuts Start at:** _____ .118
- Cut to Cut Spacing:** _____ .079
- Block #:** _____ n/a
- Depth Increments:** _____ .020
- Cutter:** _____ FC8445

1H0001	2122132232	1H0032	4322332432	1H0063	2134444321	1H0094	4332442121	1H0125	3242123221	1H0156	1223424332
1H0002	2122132432	1H0033	4322334432	1H0064	2312222321	1H0095	4332444323	1H0126	3242123443	1H0157	1223442312
1H0003	2122134234	1H0034	4324312432	1H0065	2312224343	1H0096	4334222323	1H0127	3242323223	1H0158	1223444334
1H0004	2122312234	1H0035	4324332433	1H0066	2312242343	1H0097	4334242121	1H0128	3242343221	1H0159	1243222332
1H0005	2122332234	1H0036	4324334432	1H0067	2132422123	1H0098	4334244321	1H0129	3242343443	1H0160	1243242112
1H0006	2122334234	1H0037	4342112432	1H0068	2312424323	1H0099	4334422321	1H0130	3244323223	1H0161	1243242334
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Adding a User

To Add a User Code:

- Press **1** key
screen reads manager
- Enter 6 digit master code
screen reads disable/enable
- Press **A** key
screen reads user id =
- Enter user id number (1 thru 9)
screen reads user id = 7

The Smartgard Display








Know How

Free Stuff

Safes

SEARCH RESULTS:			
VENDOR CODE:	MAL065200	Hours of Operation:	24 Hours
Company Name:	MALONEY LOCK & KEY	Perform Emergency?	Yes
Business Address:	7812 S. KOLMAR AVENUE	Service Radius:	85 Miles
City:	CHICAGO	Install combo locks?	Yes
State:	IL	Install elec. Locks?	Yes
Zip:	60652	Drill B-Rate?	Yes
Phone:	7735815400	Drill FL38?	Yes
Fax:	7735816122	Deliver/ Install?	Yes
Main Contact:		Stock Electronic Locks?	Yes
Email:		Avg. cost of B-rate Service Call	\$96.54
Rating:		Avg. cost of B-rate Drill	\$0

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1H0636	1222323423	1H0651	3442123423	1H0666	3243242134	1H0681	2324334212	1H0696	2134442343	1H0766	4332442343
1H0637	1224323421	1H0652	3442323443	1H0667	3243422334	1H0682	2342134212	1H0697	2312244343	1H0767	4334244343

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_AR3-N1179A	_H26-127ES-1127ES	_S16-49KM-N1007KMB
_AR4-135A-1179A	_H27-127DP-1127DP	_S22-043LA-01007LA
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_B2-H98M-H1098M	_H51-P27-1167FD	_S32-48KMR-N1007RMB
_B5-98DB-1098DB	_H54-PS2F3-1164FD	_S68-51S-1010N
_B10-H98LA-H1098LA	_H60-1190LN	_S69-51SA-L1010N
_B11-098LA-01098LA	_H63-170-1170B	_SC1-145-1145
_B24-H98X-H1098X	_HR1-X51FR-1014C	_SC4-145A-1145A
_B44-X98E-P1098E	_JN1-54F-1054F	_SC6-307A-1307A
_B45-098H-S1098H	_JN3-1N20-X54K-1054K	_SC7-145FS-1145F
_B46-X98J-P1098J	_JN8-L54B-L1054B	_SC8-145ES-1145E
_B47-098K-S1098K	_JN18-X54F-X1054F	_SC9-145E-A1145E
_B48-P91A-P1098A	_JN28-1054UN	_SC10-145F-A1145F
_B49-S91B-S1098B	_JN33-54MT-1054MT	_SC20-145L-A1145L
_B50-P91C-P1098C	_JN35-1054DL	_SC22-307W-1307W
_B51-S91D-S1098D	_K2-79HK-1079B	_SE1-102-1022
_B52/B4-98X-1098X	_KW1-54KS-1176	_SE8-102AB-1022AB
_BE2-A114A-A1114A	_L1-35-1004	_SK1-R21EN-R1001EN
_BN1-L54P-K1122D	_L4-35A-1004A	_T3-111E-1141E
_B01/HL2-22B-R1003M	_M1-92-1092	_T7-111GE-1141GE
_CG1-41G-1041G	_M2-92B-1092B	_WE1-133-1123
_CG2-41GA-1041GA	_M4-U82A-1092V	_WJ2-175W-1175W
_CG4/CG3-41GR-1041GR	_M10-92N-1092N	_WRS-54WB-1054WB
_CG16-41R-1041R	_M11-92T-1092H	_WRA-54WA-A1054WA
_CG17/KP1-41Y-1041Y	_M27/M16-92NR-1092NR	_WRS-54WC-N1054WC
_CG22-41RB-1041E	_NA12-174BN-1069LA	_WRP/FA2-F54A-A1054A
_C01-20-1000	_NA24-1069LC	_XL7-XL16-1180S
_C03-21EB-1001EB	_NA25/NA6-N174D-R1064E	_Y1-14-999
_C07-21EN-1001EN	_NH1-N102-1177N	_YE-E14-999N
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_C091-A22A1-A1001AH	_RU46-A57-1D-A1011D1	_Y13-R7NXX-01122R
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1H0823	3424323423	1H0836	2122112234	1H0849	2334224323	1H0862	1223422132	1H0875	4342312234	1H0945	3424343423
1H0824	3442323423	1H0837	2122334432	1H0850	4312242121	1H0863	1243244312	1H0876	2112242321	1H0946	1223244334
1H0825	1221242132	1H0838	2322134434	1H0851	4332222123	1H0864	3221224312	1H0877	2132422343	1H0947	3221244332
1H0826	1223242134	1H0839	2324334434	1H0852	4334222123	1H0865	3223424312	1H0878	2134424343	1H0948	3421222134
1H0827	1243222112	1H0840	2342334232	1H0853	1222121223	1H0866	3243422112	1H0879	2312444323	1H0949	3443422332
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								1H0938	4342112434	1H1008	2224211313
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1H1-1H4088

1H1015	2224433113	1H1085	4224233331	1H1155	2231124431	1H1168	2431122431	1H1181	2433344233	1H1194	4213344211
1H1016	2224433331	1H1086	4224431311	1H1156	2231322233	1H1169	2431124233	1H1182	4211122431	1H1195	4213344433
1H1017	2242211313	1H1087	4224433113	1H1157	2231324231	1H1170	2431322231	1H1183	4211124433	1H1196	4231122431
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1H1019	2242213333	1H1089	4242211313	1H1159	2231344211	1H1172	2431342211	1H1185	4211324233	1H1198	4231322231
1H1020	2242231311	1H1090	4242213131	1H1160	2231344433	1H1173	2431342433	1H1186	4211342231	1H1199	4231324213
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1H1082	4224213333	1H1152	2213344213								
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1H1207	4233324433	1H1239	2321323324	1H1271	1212112344	1H1303	3432132122	1H1335	3121212221	1H1367	1132243434
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1H1209	4233344233	1H1241	2323121124	1H1273	1212134344	1H1305	3432312122	1H1337	3121232423	1H1369	1132443232
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1H1212	4431322211	1H1244	2323321342	1H1276	1212334342	1H1308	3432334344	1H1340	3123232223	1H1372	1134243432
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1H1214	4431324431	1H1246	2323343324	1H1278	1232132322	1H1310	3434332324	1H1342	3123234443	1H1374	1134443212
1H1215	4431342233	1H1247	2343121322	1H1279	1232134324	1H1311	3434334342	1H1343	3123432423	1H1375	1312221232
1H1216	4431344231	1H1248	2343123124	1H1280	1232312322	1H1312	1121232423	1H1344	3123434421	1H1376	1312223432
1H1217	4433122233	1H1249	2343321122	1H1281	1232323214	1H1313	1121234421	1H1345	3321212243	1H1377	1312243432
1H1218	4433124231	1H1250	2343321344	1H1282	1232334322	1H1314	1123212243	1H1346	3321232223	1H1378	1312423212
1H1219	4433322213	1H1251	2343323342	1H1283	1234312124	1H1315	1123232223	1H1347	3321234221	1H1379	1312443212
1H1220	4433324211	1H1252	2343343324	1H1284	1234332122	1H1316	1123234221	1H1348	3321234443	1H1380	1332221212
1H1221	4433324433	1H1253	4321121322	1H1285	1234332344	1H1317	1123234443	1H1349	3323212423	1H1381	1332223234
1H1222	4433342431	1H1254	4321123124	1H1286	3212112122	1H1318	1123432423	1H1350	3323232423	1H1382	1332243234
1H1223	4433344233	1H1255	4321321122	1H1287	3212112344	1H1319	1123434421	1H1351	3323234421	1H1383	1332421234
1H1224	2121123122	1H1256	4321321344	1H1288	3212132342	1H1320	1321212243	1H1352	3323432243	1H1384	1332423434
1H1225	2121123344	1H1257	4321323342	1H1289	3212134344	1H1321	1321232223	1H1353	3323434223	1H1385	1332443434
1H1226	2121321342	1H1258	4321343324	1H1290	3212312342	1H1322	1321234221	1H1354	3343212221	1H1386	1334223232
1H1227	2121323324	1H1259	4323121322	1H1291	323232324	1H1323	1321234443	1H1355	3343212443	1H1387	1334243232
1H1228	2121343322	1H1260	4323123124	1H1292	3212334342	1H1324	1323212423	1H1356	3343232423	1H1388	1334421232
1H1229	2123121124	1H1261	4323321122	1H1293	3232112324	1H1325	1323232421	1H1357	3343234421	1H1389	1334423432
1H1230	2123123122	1H1262	4323321344	1H1294	3232132322	1H1326	1323234243	1H1358	3343432243	1H1390	1334443432
1H1231	2123123344	1H1263	4323323342	1H1295	3232134324	1H1327	1323432223	1H1359	3343434223	1H1391	3112223232
1H1232	2123321342	1H1264	4323343324	1H1296	3232312322	1H1328	1323434221	1H1360	3112221234	1H1392	3112243232
1H1233	2123323324	1H1265	4343121322	1H1297	3232332124	1H1329	1323434443	1H1361	1112223434	1H1393	3112421232
1H1234	2123343322	1H1266	4343123124	1H1298	3232334324	1H1330	1343212423	1H1362	1112243434	1H1394	3112423432
1H1235	2321121124	1H1267	4343321122	1H1299	3234312322	1H1331	1343232421	1H1363	1112423234	1H1395	3112443432
1H1236	2321123122	1H1268	4343321344	1H1300	3234332124	1H1332	1343234243	1H1364	1112443234	1H1396	3132223212
1H1237	2321123344	1H1269	4343323342	1H1301	3234334322	1H1333	1343432223	1H1365	1132221234		
1H1238	2321321342	1H1270	4343343324	1H1302	3432112124	1H1334	1343434221	1H1366	1132223434		

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Dom 1H1-1H4088

1H1397	3132243212	1H1429	2224431133	1H1461	2442213113	1H1493	4242233313	1H1525	4444211311	1H1557	2431344233
1H1398	3132421212	1H1430	2224433131	1H1462	2442231111	1H1494	4242431313	1H1526	4444213133	1H1558	2433122431
1H1399	3132423234	1H1431	2242211131	1H1463	2442231331	1H1495	4242433133	1H1527	4444231113	1H1559	2433124431
1H1400	3132443234	1H1432	2242213111	1H1464	2442233311	1H1496	4244211133	1H1528	4444231333	1H1560	2433322431
1H1401	3134221234	1H1433	2242213331	1H1465	2442431133	1H1497	4244213113	1H1529	4444233313	1H1561	2433324431
1H1402	3134223432	1H1434	2242231313	1H1466	2442433131	1H1498	4244231111	1H1530	2211124231	1H1562	2433342433
1H1403	3134243232	1H1435	2242233133	1H1467	2444211131	1H1499	4244231331	1H1531	2211322231	1H1563	2433344433
1H1404	3134421212	1H1436	2242431131	1H1468	2444213111	1H1500	4244233311	1H1532	2211324231	1H1564	4211124233
1H1405	3134423234	1H1437	2242433111	1H1469	2444213331	1H1501	4244431133	1H1533	2211342231	1H1565	4211322233
1H1406	3134443234	1H1438	2244211113	1H1470	2444231313	1H1502	4244433131	1H1534	2211344233	1H1566	4211324431
1H1407	3312223212	1H1439	2244211333	1H1471	2444233133	1H1503	4422211131	1H1535	2213122233	1H1567	4211342431
1H1408	3312243212	1H1440	2244213313	1H1472	2444431131	1H1504	4422213111	1H1536	2213124233	1H1568	4211344431
1H1409	3312421212	1H1441	2244231133	1H1473	2444433111	1H1505	4422213331	1H1537	2213322233	1H1569	4213122431
1H1410	3312423234	1H1442	2244233131	1H1474	4222211113	1H1506	4422231313	1H1538	2213324431	1H1570	4213124433
1H1411	3312443234	1H1443	2244431113	1H1475	4222211333	1H1507	4422233133	1H1539	2213342431	1H1571	4213322433
1H1412	3332221234	1H1444	2244431333	1H1476	4222213313	1H1508	4422431131	1H1540	2213344431	1H1572	4213324433
1H1413	3332243212	1H1445	2244433313	1H1477	4222231133	1H1509	4422433111	1H1541	2231122431	1H1573	4213342433
1H1414	3332421212	1H1446	2422211331	1H1478	4222233131	1H1510	4424211113	1H1542	2231124433	1H1574	4231122211
1H1415	3332423234	1H1447	2422213311	1H1479	4222431113	1H1511	4424211333	1H1543	2231322433	1H1575	4231124211
1H1416	3332443234	1H1448	2422231131	1H1480	4222431333	1H1512	4424213313	1H1544	2231324433	1H1576	4231322211
1H1417	3334221234	1H1449	2422233111	1H1481	4222433133	1H1513	4424231133	1H1545	2231342433	1H1577	4231324211
1H1418	3334223434	1H1450	2422431111	1H1482	4224211331	1H1514	4424233131	1H1546	2233122211	1H1578	4231342213
1H1419	3334243434	1H1451	2422431331	1H1483	4224213311	1H1515	4424431113	1H1547	2233124211	1H1579	4231344213
1H1420	3334423232	1H1452	2422433311	1H1484	4224231131	1H1516	4424431333	1H1548	2233322211	1H1580	4233122213
1H1421	3334443232	1H1453	2424211311	1H1485	4224233111	1H1517	4424433313	1H1549	2233324213	1H1581	4233124213
1H1422	2222431313	1H1454	2424213133	1H1486	4224431111	1H1518	4442211331	1H1550	2233342231	1H1582	4233322231
1H1423	2222433133	1H1455	2424231113	1H1487	4224431331	1H1519	4442213311	1H1551	2233344231	1H1583	4233324231
1H1424	2224211133	1H1456	2424231333	1H1488	4224433311	1H1520	4442231131	1H1552	2431122231	1H1584	4233342231
1H1425	2224213113	1H1457	2424233313	1H1489	4242211311	1H1521	4442233111	1H1553	2431124231	1H1585	4233344231
1H1426	2224331111	1H1458	2424431313	1H1490	4242213133	1H1522	4442431111	1H1554	2431322233	1H1586	4431122233
1H1427	2224231331	1H1459	2424433133	1H1491	4242211113	1H1523	4442431331	1H1555	2431324233		
1H1428	2224233311	1H1460	2442211133	1H1492	4242231333	1H1524	4442433311	1H1556	2431342233		

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GM Transponder #B97S-PT



HONDA

Honda Transponder #HD106



CHRYSLER

Chrysler Transponder #Y160S-PT



NISSAN

Nissan Transponder #N102T



Circle 396 on Rapid Reply

Dom

1H1-1H4088


1H1587	4431124233	1H1600	2121343122	1H1613	2323321324	1H1626	4323123322	1H1639	1232112122	1H1709	1112443232
1H1588	4431322233	1H1601	2123121122	1H1614	2323323344	1H1627	4323321322	1H1640	1232132122	1H1710	1132223212
1H1589	4431324233	1H1602	2123123124	1H1615	2323343344	1H1628	4323323322	1H1641	1232134322	1H1711	1132243232
1H1590	4431342431	1H1603	2123321124	1H1616	2343121344	1H1629	4323343322	1H1642	1232312324	1H1712	1132421234
1H1591	4433122211	1H1604	2123323124	1H1617	2343123344	1H1630	4343121324	1H1643	1232332324	1H1713	1132443212
1H1592	4433124211	1H1605	2123343124	1H1618	2343323122	1H1631	4343123324	1H1644	1232334344	1H1714	1134221234
1H1593	4433322211	1H1606	2321121322	1H1619	2343343122	1H1632	4343321324	1H1645	1234312344	1H1715	1134243212
1H1594	4433324213	1H1607	2321123322	1H1620	4321121122	1H1633	4343323324	1H1646	1234334322	1H1716	1134421232
1H1595	4433342213	1H1608	2321321322	1H1621	4321123122	1H1634	4343343342	1H1647	3212112322	1H1717	1134423434
1H1596	4433344213	1H1609	2321323322	1H1622	4321321124	1H1635	1212132124	1H1648	3212132322	1H1718	1312221234
1H1597	2121121344	1H1610	2321343324	1H1623	4321323124	1H1636	1212134324	1H1649	3212134342	1H1719	1312243212
1H1598	2121321122	1H1611	2323121324	1H1624	4321343124	1H1637	1212312324	1H1650	3212312344	1H1720	1312421232
1H1599	2121323122	1H1612	2323123324	1H1625	4323121124	1H1638	1212332342	1H1651	3212332344	1H1721	1312423434
								1H1652	3232112124	1H1722	1332221232
								1H1653	3232132124	1H1723	1332223434
								1H1654	3232134342	1H1724	1332421212
								1H1655	3232312342	1H1725	1332423432
								1H1656	3232332344	1H1726	1334221212
								1H1657	3234312124	1H1727	1334223432
								1H1658	3234332322	1H1728	1334243434
								1H1659	3234334342	1H1729	1334423244
								1H1660	3432112342	1H1730	3112221212
								1H1661	3432132342	1H1731	3112223432
								1H1662	3432312124	1H1732	3112243434
								1H1663	3432332124	1H1733	3112423234
								1H1664	3432332124	1H1734	3112443434
								1H1665	3432334324	1H1735	3132223234
								1H1666	3434332342	1H1736	3132243432
								1H1667	1121232223	1H1737	3132423232
								1H1668	1121234223	1H1738	3132443432
								1H1669	1123212223	1H1739	3134223232
								1H1670	1123232243	1H1740	3134243212
								1H1671	1123234243	1H1741	3134243434
								1H1672	1123432243	1H1742	3134423432
								1H1673	1123434243	1H1743	3312221212
								1H1674	1321212421	1H1744	3312223432
								1H1675	1321232421	1H1745	3312243434
								1H1676	1321234421	1H1746	3312423432
								1H1677	1323212421	1H1747	3312443434
								1H1678	1323232423	1H1748	3332223432
								1H1679	1323234423	1H1749	3332243434
								1H1680	1323432423	1H1750	3332423432
								1H1681	1323434423	1H1751	3332443434
								1H1682	1343212443	1H1752	3334223234
								1H1683	1343232443	1H1753	3334243432
								1H1684	1343234443	1H1754	3334423234
								1H1685	1343432443	1H1755	3334443432
								1H1686	3121212223	1H1756	2222431331
								1H1687	3121232223	1H1757	2222433313
								1H1688	3121234223	1H1758	2224211333
								1H1689	3123212223	1H1759	2224213331
								1H1690	3123232243	1H1760	2224231333
								1H1691	3123234243	1H1761	2224431111
								1H1692	3123432243	1H1762	2224431333
								1H1693	3123434243	1H1763	2242211113
								1H1694	3321212421	1H1764	2242213113
								1H1695	3321232421	1H1765	2242231113
								1H1696	3321234421	1H1766	2242233111
								1H1697	3323212421	1H1767	2242431113
								1H1698	3323232443	1H1768	2242433131
								1H1699	3323234443	1H1769	2244211133
								1H1700	3323432443	1H1770	2244213133
								1H1701	3323434443	1H1771	2244231131
								1H1702	3343232221	1H1772	2244233133
								1H1703	3343234221	1H1773	2244431133
								1H1704	3343432221	1H1774	2244433133
								1H1705	3343434221	1H1775	2422211311
								1H1706	1112223212	1H1776	2422213313
								1H1707	1112243232	1H1777	2422231313
								1H1708	1112423212	1H1778	2422233311

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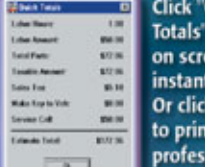
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Dom 1H1-1H4088

1H1779	2422431313	1H1811	4242231111	1H1843	2211322213	1H1875	4213324431	1H1907	2323123322	1H1939	3232112122
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1H1781	2424211333	1H1813	4242431113	1H1845	2211342433	1H1877	4231122231	1H1909	2323343124	1H1941	3232312122
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1H1810	4242213111	1H1842	2211122233	1H1874	4213322231	1H1906	2323121122	1H1938	3212332322		

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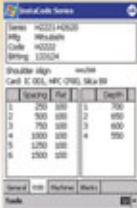
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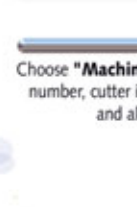
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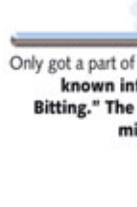
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1H2977	2224213311	1H3047	4422431331	1H3117	2332133221	1H3130	4312313421	1H3143	2111212134	1H3156	2133234332
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1H3045	2242433313	1H3115	2332111243								
1H3046	4222213133	1H3116	2332113423								

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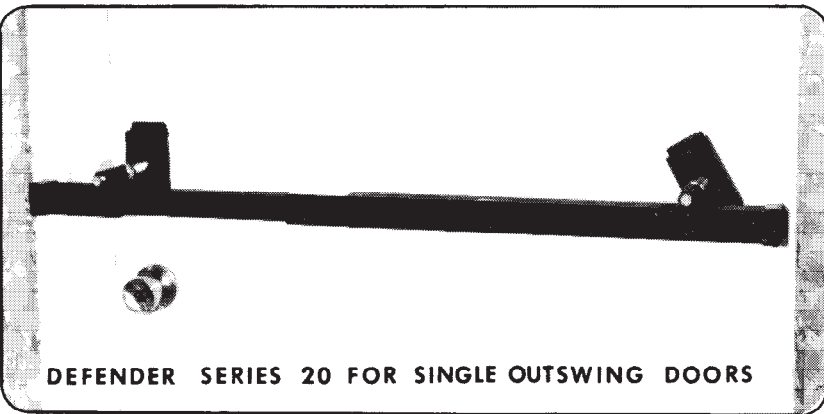
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Dom

1H1-1H4088

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Dom 1H1-1H4088

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1H4011	2333432334	1H4067	3433423121
1H4012	4333234312	1H4068	4312133443
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1H4015	3243113212	1H4071	3213421123
1H4016	3421311234	1H4072	2332311223
1H4017	3443313432	1H4073	2333234334
1H4018	1231223123	1H4074	3421311212
		1H4075	3433223321
		1H4076	2133432112
		1H4077	3221311212
		1H4078	2112331221
		1H4079	4331234312
		1H4080	1233423123
		1H4081	2133432334
		1H4082	3213423343
		1H4083	1243111232
		1H4084	4334313223
		1H4085	4312113243
		1H4086	1223331212
		1H4087	2132313423
		1H4088	3443111232

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2
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Kawasaki KLR650



by
**John
Blankenship**

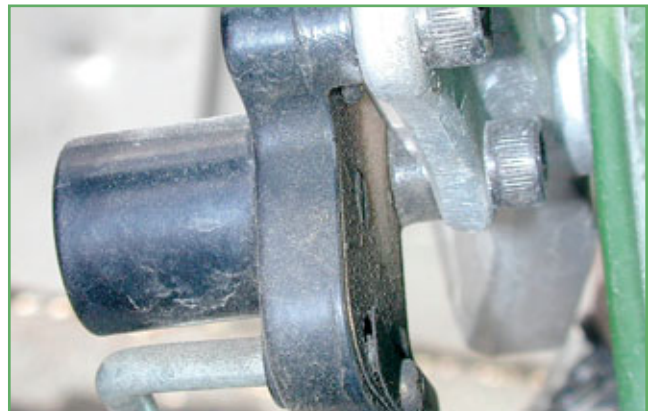


1. The KLR650 is a very popular dual-sport motorcycle, and there are a lot of them out there. There are no codes on the locks, but it is not difficult to originate a key for it.

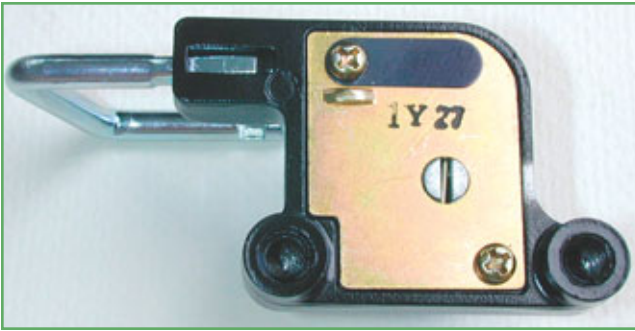
Helmet Lock



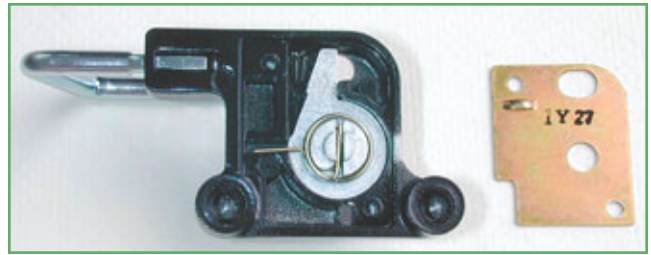
2. The helmet lock is the best lock to originate a key from. It is located on the left side of the motorcycle next to the rear fender. It contains wafer tumblers in five of the six spaces.



3. This view of the helmet lock from the rear of the motorcycle shows the two mounting bolts. A hex key is required to remove them, but there is not much clearance between the bolts and the rear fender. Vice-Grips can be used to aid in removing them.



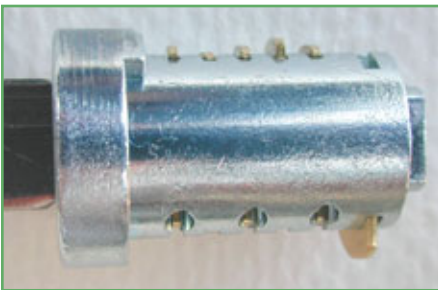
4. The back of the helmet lock is shown. Remove the two small Phillips screws and remove the backing plate.



5. The backing plate has been removed revealing the tailpiece and spring. Pay attention to how the spring is positioned and remove them.



6. Now the retainer is visible on the upper side of the plug. Depress it and push the plug out the front of the cylinder. Be careful and do not allow any wafers to spring out.



7. The helmet lock plug contains wafer tumblers in spaces 1-5 and a wafer retainer. A KW14 blank inserted into the keyway shows that the cuts for the first five spaces are 2-1-2-3-2. Cut a key that will turn the helmet lock smoothly and then progression the 6th space in the ignition lock.

8. The original keys have the code B123212 stamped on them. The letter B indicates that a KW14 blank is to be used and the numbers are direct read tip to bow. Code cut a KW14 blank with cuts of 2-1-2-3-2-1 bow to tip and it should work all three locks on the bike.



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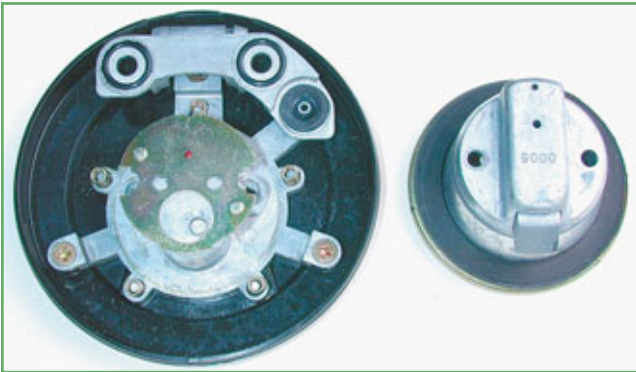
ASSA ABLOY

Gas Cap Lock

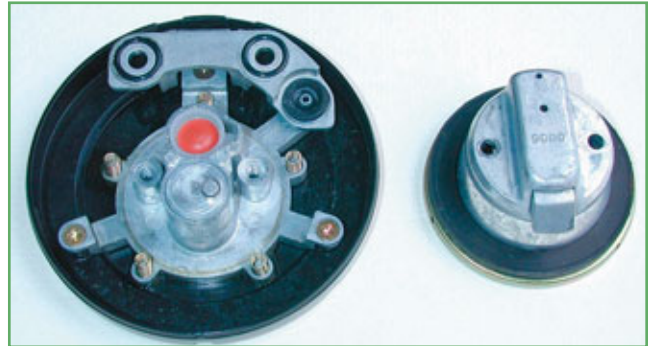
9. Pick the gas cap 90 degrees clockwise to open it; lubing helps. It also helps to push down on the front of the gas cap to ease tension on the locking bolt. You are picking against spring pressure so have a small screwdriver ready to finish turning the plug.



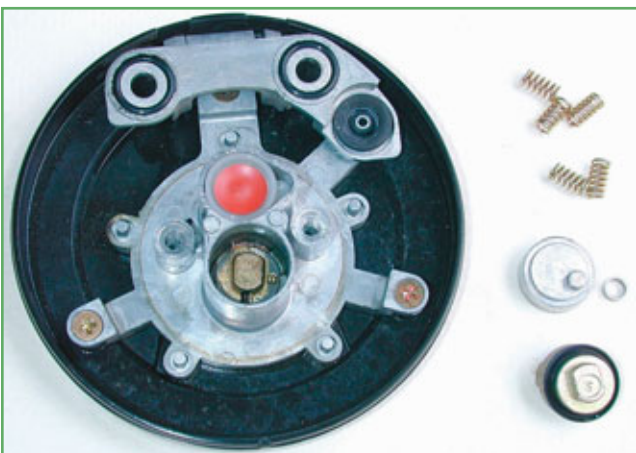
10. Stuff a rag into the filler neck to prevent anything from falling into the gas tank. Remove the two Phillips screws that secure the gas cap hinge to the gas tank so you can take it to a workbench. Then remove the two Phillips screws that secure the locking bolt housing.



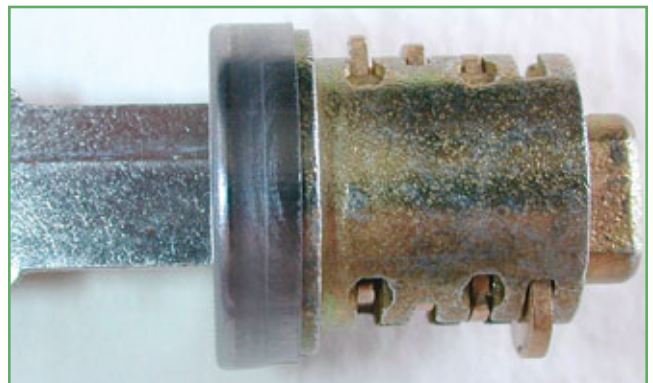
11. The locking bolt housing has been removed along with the compression ring and gasket. They can come apart but you can keep them together to aid in reassembly. The plate that encircles the back of the plug might stay inside the locking bolt housing or it might fall out. If it falls out you can place it in the position shown for reassembly, although it is easier to put some grease on it and place it back inside the locking bolt housing. The grease will hold it in place. Notice that the locking bolt housing is to be reinstalled with the locking bolt on the opposite side of the cap from the mounting hinge.



12. Remove the five compression springs and then remove the small bushing from the outer tailpiece. Use pliers to pull out the outer tailpiece and then use them to pull out the inner tailpiece.



13. The five springs, outer tailpiece with bushing, and the inner tailpiece have been removed. Now the retainer is visible on the upper side of the plug. Depress it and push the plug out the front of the cylinder. Be careful and do not allow any wafers to spring out.



14. The gas cap plug contains three wafer tumblers in spaces 4-6 and a wafer retainer. A KW14 blank inserted into the keyway shows the last three cuts are 3-2-1. If you are using this lock to originate a key, you still need the cuts for spaces 1-3 from the ignition or helmet lock. There are 64 possible combinations so progression is not practical. Knowing the depths for 4-6 will make it easier to read or impression one of the other locks.

Continued on page 188

The Bold New Vision of Kaba Mas



Reliability



Innovation



Kaba Kodes



Dealer Website



Education



Incentives

The Kaba Mas Dealer Network is the second phase of our new distribution channel that includes sales support, technical support services, product development and technical training classes. The first step was to create a network of wholesalers – the Wholesale Network – who all received extensive in-house training on all of our products and are supported by our internal and external sales team. By providing our distribution channel with education and sales support, they are better equipped to service your product needs.

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Circle 351 on Rapid Reply

Ignition Lock

15. The ignition/steering lock is located on the instrument panel. You need to push the plug in and allow it to spring back out before it will turn to the LOCK (steering locked) or P (parking lights on) positions.



The steering has to be turned all the way to the left or right before the steering can be locked.



17. This is the back of the ignition/steering lock. Remove the two Phillips screws that secure the steering lock bolt housing to the back of the lock and remove it.



16. This is the ignition/steering lock that is used on the KLR650 motorcycle.



18. The steering lock bolt housing has been removed along with the switch plate. I used a marking pen to mark the parts inside the housing and also put a mark on the inside of the housing to align them with during reassembly. Now you can remove the switch rotor.



Checkmate Locks

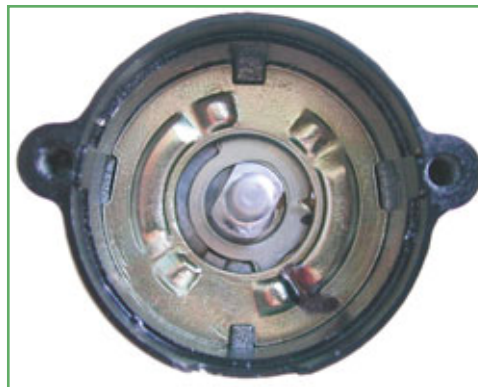
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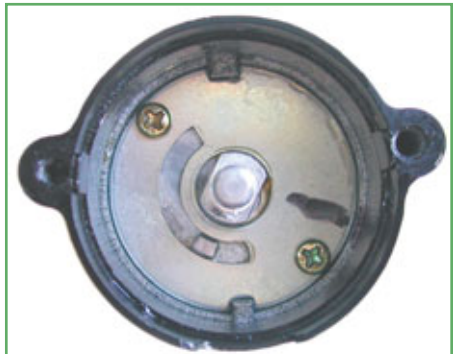
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19. Use a hook tool to pull out the switch backing plate; it just pulls right out.

20. Remove the two Phillips screws, grab the tailpiece, and pull it and the stop plate out as a unit. They can separate but grease will hold them together if you are gentle.



Continued on page 190

For years locksmiths have begged for comprehensive service manuals on motorcycles, and they are finally here! Covering a wide range of service procedures, you'll know everything a locksmith needs to know about each cycle. Plus, you'll get step by step photographs and instructions.



The National Locksmith® Guide To Motorcycles Volumes 1, 2 & 3 by John Blankenship

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Volume 1 covers...

Key information • Progression Charts • **BMW** 1997 R1100R • **Harley-Davidson** 1938 Knucklehead, 1970 Sportster, 1980 Sportster, 1984 Wide Glide, 1994+ Tubular Ignition Lock • **Honda** 1968 Mini Trail 50, 1970 Trail 90, 1971 CB750, 1978 CB750, 1978 Hawk, 1981 CB900, 1982 Ascot, 1983 Shadow, 1984 Nighthawk, 1985 Rebel, 1990 Gold Wing, 1996 Nighthawk 750, 1996 VFR750 • **Kawasaki** 1980 LTD250, 1985 Ninja 600, 1993 KLX650 Ignition Lock, 1994 Ninja Gas Cap • **Neiman** Steering Lock • **Suzuki** 1986 Intruder, 1990 Katana 600, 1991 GSXR1100 Ignition Lock, 1998 Katana 600, 1999 TL1000R • **Triumph** 1995 Tiger, 1999 Legend • **Yamaha** 1980 650 Twin, 1987 FZR1000 Ignition Lock, 1987 Virago, 1992 Yamaha/Polaris 4-Wheeler Ignition Lock, 1998 V Star Classic, 1998 YZF600R

Volume 2 covers...

Key information • Progression Charts • **BMW** 1976 R90/6, 1989 K100RS, 1995+ Ignition Lock, 1999 F650, Luggage using Y61 • **Buell** 2000 Blast • **Ducati** 1993 Monster • **Harley-Davidson** 1999 Road King Police, 1999 Sportster • **Honda** 1975 CB550 Ignition Lock, 1980 CB400 Ignition Lock, 1983 CB650 Ignition Lock, 1985 Aero Ignition Lock, 1995 Gold Wing Luggage, 1987 250X 4-Wheeler, 1990 NS50, 1992 Shadow, 1994 CB250, 1997 Shadow, 1998 CBR1100XX, 1999 CBR600F4, 1999 CBRX1100XX, 1999 Shadow, 2000 CBR600F4, LIPO 5-cut Ignition Lock, LIPO 8-cut Ignition Lock, • **Kawasaki** 7-cut Code Information, 1980 LTD250 Ignition Lock, 1983 GPZ Ignition Lock, 1986 ZX600R Gas Cap, 1986 ZX600R Ignition Lock, 1987 EX500 Ignition Lock, 1989 EX500, 1991 ZX-6, New Blank • **Suzuki** 1968 T500, 1981 GS550 Ignition Lock, 1986 GSXR750RG Gas Cap, SM-2 Ignition Lock, SM-4 Ignition Lock • **Triumph** 1970 Bonneville, 1973 Tiger, • **Yamaha** 1980 XS650, 1982 Seca 400, 1982 XV920 Ignition Lock, 1984 FJ600, 1986 FJ1200 Gas Cap, 1989 Riva Jog Ignition Lock, 1990 XT350, 1993 Seca II, 1996 Royal Star, Cruiser Ignition Lock • **Zadi** Q637 Ignition Lock, Q933 Ignition Lock

Volume 3 covers...

Key information • Progression Charts • **BMW** 1999 R1100GS, Luggage using X59 • **Honda** 1975 CB500T Ignition Lock, 1980 CB750 Custom Ignition Lock, 1980 CM400T, 1983 CB450 Nighthawk Ignition Lock, 1985 Big Red, 1987 Elite 250, 1987 Elite 250, 1997 CBR600F3, 1999 Shadow ACE Deluxe, 2001 CBR1100XX, 2001 Gold Wing, 2001 XR100, 2002 VTX1800, Cruiser Ignition Lock • **Kawasaki** 1979+ Ignition Lock, 1982 KZ1000 Ignition Lock, 1986 ZL600 Ignition Lock, 1992 ZX6 Seat Lock, 1995 KLR250 Ignition Lock, 1998 ZX9R Ninja, 2000 Concours, 2001 250R Ninja, 2001 500R Ninja, 2001 KLR650, 2001 ZX12R Ninja, KM-5 Ignition Lock • **Moto Guzzi** 1979 V 50 II • **Suzuki** 1979 GS750 Ignition Lock, 1985 Ignition Lock, 1986 GSXR750, 1990 GSXR750, 1997 DR650, 1999 Savage, 2001 GSXR750, SM-5 Ignition Lock • **Yamaha** 1972 Enduro 100, 1977 Enduro 400, 1978 XS750 Triple, 1982 XZ550 Vision Ignition Lock, 1984 QT, 1989 V Max, 1992 TW200 Ignition Lock, 2002 BearTracker



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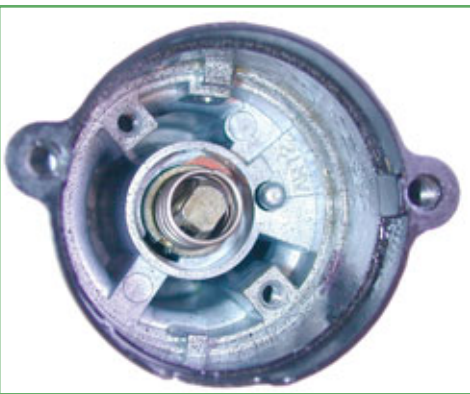
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21. Remove the spring and depress the retainer that is visible on the upper side of the plug so you can push the plug out the front of the cylinder. Be careful and do not

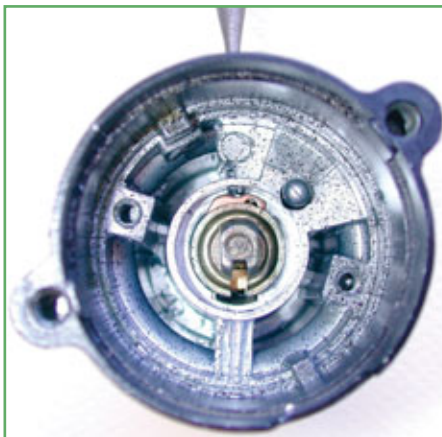


allow any wafers to spring out. Grease does a good job of holding the detent ball bearing on but be careful not to lose it.

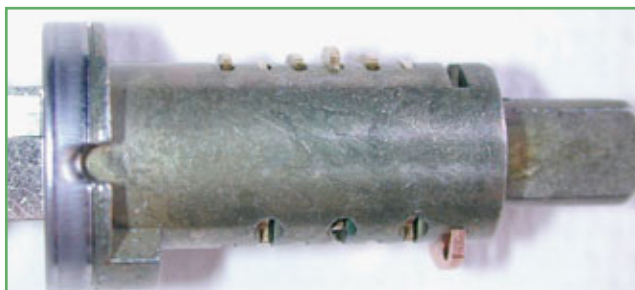


23. Use a small punch to depress the retaining wafer and pull the plug out the front. Be careful because the wafers fall out easily. The spring on the rear of the plug will be loose so secure it on the back of the plug with grease before reinstalling it.

22. A shortcut method is to drill a small poke hole 1-3/32" (27.8mm) from the face of the plug and in line with the keyway on the retainer side. To determine which side of the keyway to align it with, look into the keyway and



see which side the wafers are visible on. Align the hole with the other side of the keyway from the visible wafers. This photograph shows that you have to drill through two walls before you gain access to the retainer. The punch is shown making contact with the retaining wafer. The retainer is open on the other end so that a pick cannot be used in the keyway to pull it down.



24. The ignition plug contains all six wafer tumblers and a wafer retainer. A KW14 blank inserted into the keyway shows that the cuts are 2-1-2-3-2-1. Cut the key and it should work all three locks on the bike.

A NOTE FROM THE CIRCULATION MANAGER

I don't want you to be left out... but sometimes we do run out of back issues. Please be sure to send in your **Renewal Payment** on time and your **Change of Address** at least 4 weeks in advance. Then you won't be the one receiving a note saying, "Sorry, we ran out."

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DSD Number: 421

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Ignition Lock: X X X X X X

Gas Cap Lock: X X X

Helmet Lock: X X X X X

Ignition Lock: 1-6

Gas Cap Lock: 4-6

Helmet Lock: 1-5

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 Editor, Greg Mango, at (630) 837-2044.

The Bold New Vision of Kaba Mas by Susan McDaniel

Kaba Mas, formerly Mas-Hamilton Group, known for marketing innovation, is launching the Kaba Mas **Dealer Network**—an incentive program for dealers who buy Kaba Mas products. Similar to Frequent Flier Miles, the Kaba Mas **Dealer Network** is the company's way of thanking its dealers who contribute to the company's success each day. The **Dealer Network** is the second phase of the company's surprising new distribution network.

Kaba Mas is the world's leading manufacturer and supplier of high-security, electronic safe locks. The company's complete line of self-powered, battery and mechanical locks meets virtually every safe lock requirement.

Part of the worldwide Kaba group, Kaba Mas has always been dedicated to satisfying end-user needs for security, safety and convenience. Now this innovator in the lock industry is setting standards again with a bold new vision. Superior performance to the end user? That's a tall order. But the creative minds at Kaba Mas found a way to achieve it. By creating an environment of harmony where the Wholesaler and the Dealer work in unison, Kaba Mas executives saw that they could actually shorten the distance between the company's technical customer care and the end user, and have a little fun while doing it.

"Kaba Mas is a success," said Steve Wolf, Director of Sales/Marketing, "due to a combination of things—the high quality of products, the professionalism of our wholesale distributors and the loyalty of our dealers and users. We wanted to organize our distribution so our lines of communication were efficient. With the network, we can directly communicate new product information, customer support, education, and of course, our appreciation."



The Wholesale Network

The first step in the company's new distribution plan was to create a network of wholesalers. The Kaba Mas **Wholesale Network** is made up of companies with a similar market philosophy to Kaba Mas along with the necessary resources to support that philosophy. Resources such as:

- A comprehensive inventory of Kaba Mas products and parts

- Factory-trained technicians
- A commitment to customer calls
- The facilities and a commitment to educate dealers and end users

Members of the **Wholesale Network** receive extensive training directly from Kaba Mas. These companies offer the full Kaba Mas product line as well as the resources to support these products. Kaba Mas has spent the last year selecting, training and certifying their **Wholesale Network** members. Now the company is ready for phase two of their distribution plan—the Kaba Mas **Dealer Network**.

The Dealer Network

The soon-to-be-launched Kaba Mas **Dealer Network** is a first for the industry—a simple, fun way to thank loyal Kaba Mas dealers. Through the **Dealer Network**, Kaba Mas products will be shipped with Kaba Koupon stickers. Each coded Koupon will have a point value, which is determined by the level of product purchased:

- Gold Koupons are worth 25 points and will come on the Auditcon 100–500 models, the Auditcon 2100 and Cencon.
- Silver Koupons are worth 15 points and accompany the 52 series of products.
- Bronze Koupons, 5 points, are for the LC Series and mechanical locks.

Koupons will be furnished and points awarded for locks purchased for retrofit or installed on safes from participating safe manufacturers. Dealers simply collect the Koupons, amassing points toward an entire catalog of products. Choose your product, collect enough Koupons, then redeem your points. That's it! Joining the Kaba Mas **Dealer Network** and tracking your points is easy: There are several ways to join:

- Sign up online at www.kabamasdealers.com
- Sign up at a Wholesale Network location or trade show

Once you have joined the **Dealer Network** you will receive a welcome kit containing your user name, password, product catalog and more.

Keeping track of and redeeming your points:

Dealers with Internet access can keep track of or redeem points through the **Dealer Network** web site, www.kabamasdealers.com. Using the user name and password included in the welcome kits, dealers can simply click on the "Dealer Login" tab to gain access to their accounts. Once in the account, **Dealer Network** members can key in their Koupon, check point totals or redeem points.

Dealers who are not online can fax or mail Koupons to Kaba Mas. Kaba Mas will administer your account and send you quarterly statements of account activity.

"We're excited about the Kaba Mas Dealer Network," said Ray Reichenbach, Operations Manager. "As our company grows, we want to

make sure our Network members know we appreciate them and are there for them. Increasing technical support through our **Wholesale Network** demonstrates our commitment to high-quality customer service. The **Dealer Network** shows our commitment to maintaining relationships with our most valued assets, and adds a little excitement along the way."

For more information on Kaba Mas visit www.kaba-mas.com. Susan McDaniel, of Kline-McDaniel Writing/Editing, is a Journalist in Lexington, KY.



Meet Kaba Mas

Since its inception as Mas-Hamilton Group in 1989, Kaba Mas Corporation has been the industry leader in container locking technology. With the breakthrough design of the X-07™ and its PowerStar™, energy-generating system, the market has seen product design and engineering rise to new levels.

Kaba Mas' engineering staff, consisting of mechanical, electrical and software engineers, lead the way with innovative products like the new "LC" low-current battery-operated safe locks. These locks accept multiple users, are simple to install and feature our PowerSaver™ power management system. PowerSaver™ helps a battery last for virtually its shelf life, while the lock continues to function.

In addition to leading the market in engineering, Kaba Mas provides professional education. In our new education facility, the education department offers hands-on certification training on all products.

Recognizing that customers are a company's most important asset, Kaba Mas pioneered 24-hour live qualified technical support. This tradition continues today with Microsoft Certified Professionals on staff to manage system issues and first-line personnel to handle lock problems.

The recent addition of mechanical safe locks to the Kaba Mas portfolio means there are no container applications that cannot be met. Now part of Kaba AG, a worldwide total access provider, Kaba Mas has opportunities to demonstrate on a global scale that we are truly "The Brand for Safe Locks." **TNL**

Master Lock Acquires American Lock Company

Master Lock has acquired American Lock Company, a manufacturer of solid body padlocks and cylinders for the higher security commercial market.

In acquiring American Lock, Master Lock is gaining a recognized brand in commercial security, a broad portfolio of commercial grade padlock security, a dedicated and experienced workforce and an opportunity for synergies in sourcing, logistics and best practices.

This purchase enables Master Lock to better serve its customers in the industrial and government segments of the growing commercial door lock, padlock, safety lockout and other related security markets.

Keys Wholesale Distributors, Inc

Keys Wholesale Distributors, Inc. has become one of the first distributors to offer the entire assortment of Kaba Ilco's New Exclusive painted keys featuring Professional sport team logos. All NFL, NBA, MLB and NHL team logos are available. These keys feature oversized heads and fit the most popular residential keyways: KW1, WR5, WR3, SC1 and 1510.

Keys is also offering Ilco's companion line of Collegiate Personal-Keys that to date is offering 30 popular college team logos on the standard KW1 and SC1 keys. The list of colleges will continue to broaden in the near future. Key blanks are packed 10 per bag and 50 per box. In addition free counter displays are available.

For more information contact Keys Wholesale Distributors, Inc. at 800-292-5397.

The Grey House Safety & Security 2003 Directory

Grey House Publishing is now offering the 2003 Edition of *The Grey House Safety & Security Directory*, now in its 55th year of publication. This two-volume set is the standard in its field. It is the resource that safety professionals—engineers, plant managers, and construction site managers—turn to throughout the year for important safety compliance information and products. These busy professionals know that this unique resource will put at their fingertips important OSHA regulations, checklists that can be used for self-inspection, and training articles that summarize state-of-the-industry trends and programs that can quickly and efficiently produce better safety results and compliance in the workplace. This information has been organized into 16 chapters each closely mirroring the format of the most important OSHA safety regulations.

Safemasters Expands in New Jersey

Safemasters Co., Inc., headquartered in Silver Spring, MD, expanded its presence in the North Jersey market by acquiring two established security businesses in that area. In May, Safemasters acquired the assets of B&R Lock of Hasbrouck Heights and in September Caldwell Security in Caldwell was purchased. Both businesses were merged into the Safemasters location in Little Falls, NJ. Safemasters has 14 locations in 8 states and includes its nationwide service division, SM Services, based in Philadelphia.

KABA Access Control new Product Managers and Sales Personnel

Kaba Access Control has added five new personnel as part of the organization's enhanced total access commitment to Marketing, Customer Service, and Product Management in the North American access control market.

Richard Lang, Director of North American Sales. Lang is responsible for the US and Canadian sales management of Kaba Access Control's complete line of access control solutions.

Bob Carr, Western Regional Sales Manager. Carr will oversee sales management in the Western United States region for Kaba's complete line of access control products, including Peaks[®], Simplex[®], Solitaire[®], PowerLever[®], and Millennium[®] access control systems.

Charles Hayes, Product Manager, Simplex Locks. Hayes will be responsible for the design and production of the Simplex mechanical pushbutton family of locks.

Mark Allen, Product Manager, Solitaire and Electronic Locks. Allen will manage electronic, Solitaire, and PowerLever brands.

Mark Shellberg, Product Manager, LEGIC[®]. Shellberg will oversee LEGIC in North America. LEGIC is a contactless, smart card technology, making its debut in North America this year. LEGIC is already widely used across Europe for access control, electronic ticketing, vending, and a number of other applications.

For more information contact: Jo Brown, 2941 Indiana Ave., Winston-Salem NC 27105. Phone: (336) 725-

1331 ext. 262 or (800) 849-8324 ext. 262; E-mail: jbrown@kws.kaba.com; Web: www.kaba_ilco.com.

Baran/Tec Keypad FAA Approved for Securing Cockpits

Baran/Tec, Inc. was recently awarded FAA Certification for the company's new Cockpit Door Access Control Keypad, giving them the only certified keypad for flight deck doors in the security industry.

A key benefit of the new keypad is its ruggedness and reliability. It's totally sealed, all-metal construction makes it ideal for hazardous or extreme user pattern applications. By utilizing a patented solid-state piezo design, Baran/Tec is able to manufacture totally sealed, all metal products that have no moving parts and therefore unprecedented life expectancy.

Baran/Tec worked closely with Timco Aviation Sales of Greensboro, NC, a maintenance repair organization with FAA approved personnel on their staff, to develop the unique software and receive FAA approval.

The keypad is part of a complete flight deck door solution that also includes a reinforced panel door and a locking device. The new system is scheduled to be installed in the fleet of at least two major airlines and three secondary airlines within the next six months.

The Cockpit Door Access Control Keypad joins Baran/Tec's complete line of security products that includes Wiegand keypads, Prox readers and single door access systems and crosses over into a host of other industries. 

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WEB REVIEW

MDS Incorporated

http://mdsincorporated.com/ps_1000.htm

MDS Incorporated
See what you're missing

MDS Incorporated has been serving the locksmith industry for just about twenty years now with a variety of scopes and viewing equipment. Locksmiths often have to view into difficult to access situations such as drilled safes, door panels, and more.

In their web site, MDS shows a lot of charts with feature and price comparisons. They also provide photos of the equipment. These tools are almost like toys for locksmiths who find them not only useful, but also fun.

Because scopes can be outfitted with a variety of accessories, MDS shows all the possibilities, plus creates value kits, combining scopes, probes, lights, and even video options.

According to the company, the universal Focuscope™ Optical Probe System is the most affordable of its kind in the marketplace.

Feature	Value Probe	Hardware
View 10" Scope of View	View 10" Scope of View	View 10" Scope of View
Support View Scope Size of Probe	Support View Scope Size of Probe	Support View Scope Size of Probe
View Scope	View Scope	View Scope
View Scope	View Scope	View Scope
View Scope	View Scope	View Scope
View Scope	View Scope	View Scope

A-1 Security Mfg. Corp.

www.demanda1.com

A&B Safe Corporation

www.a-bsafecorp.com

Abloy® DiskLock Pro

info@abloy.ca

Adrian Steel

www.adriansteel.com

DiMark International

www.dimarkinternational.com

Dynalock Corp.

www.dynalock.com

Framon Mfg. Co.

www.framon.com

Herbert L. Flake Co.

www.hflflake.com

Gator Tools Co.

www.gatortools.com

HPC, Inc.

www.hpcworld.com

Indiana Cash Drawer Co.

www.icdpos.com

International Locking Devices, Ltd.

www.gatelock.com

Jet Hardware Mfg. Co.

www.jetkeys.com

KSP

www.iccore.com

KustomKey

www.kustomkey.com

Major Manufacturing

www.majormfg.com

McDonald DASH Locksmith Supply

www.mcdonaldsdash.com

Midwest Wholesale

www.midwestwholesale.com

Monaco Lock

www.monacolock.com

National Auto Lock Service, Inc.

www.laserkey.com

Omaha Wholesale Hardware

www.omahawh.com

RS2 Technologies

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Taking Industry Products for a...

TEST DRIVE

Select Access™ by Master Lock® Co.



Offering much more than just padlocks, Master Lock Co., has greatly expanded its product line in recent years. On new offering is the Select Access™ key storage locks. There are two models available: the 5400D, which features a shackle to hang from a doorknob, and the 5401D wall mount, which is designed to be fastened to a solid wall.

Key storage locks are designed to safely store spare keys for emergency, or selective access. Gone are the days of storing an emergency key under an unsecured floor mat, or under a rock. Much greater peace of mind is gained by storing a spare key that allows access to your private home in a secure manner, yet knowing you have access to it if, and when needed.

Key storage locks can also allow controlled access to those maintenance workers that provide routine service on pools, the landscape, or cleaning without you being present, or the service providers possessing a key.

CONSTRUCTION:

The solid die cast body is reinforced to withstand hammering and sawing. The zinc lock body and door are weather resistant and feature a snug fit. The 5400D also features a molded bumper and vinyl coated shackle designed to prevent scratches when hung from a doorknob.

Outside dimensions for the wall mount 5401D is 3-7/8" wide x 4-5/8" long x 1-7/16" deep. The 5400D is 3-9/16" wide x 4" long x 1-9/16" deep, with shackle dimensions of 1-13/32" tall x 1-7/8" wide and 13/32" thick.

FEATURES:

Both feature a 4-digit combination lock that is resettable to the customers needs. There is also a shutter door that covers the combination wheels and provides weather protection.

Next to the combination wheels is a release button that unlocks the door after the correct combination is entered.

OPERATION:

1. Open the shutter door to reveal the rotating dials and release button.
2. Rotate the dials to the current combination. Factory combo is 0-0-0-0.
3. Press down on the release button to open the door.

COMBINATION CHANGING:

1. Open the compartment door using the current combination.
2. Push the reset lever inside the door to the left and then down. The lever will remain in that position.
3. Rotate combination wheels to the desired new combination.
4. Push the reset lever back to the original position, up and to the right.

IN SUMMARY:

DESCRIPTION: Select Access[is designed to safely store spare keys.

PRICE: \$30.00 to \$32.00

COMMENTS: Two models with ample storage space and 4-digit resettable combination.

TEST DRIVE RESULTS: Attractive in design, well constructed and easy to use.

5. Before closing the door, scramble the wheels and lock open. Dial the new combination to assure lock opens before closing and locking the unit.

The Select Access™ easily holds 5 house or automotive keys.

The shackles 5401D is designed to be installed on a solid surface, such as brick or wood. Stainless steel mounting screws are provided.

PRICE:

The suggested retail price for the shackled Select Access™ 5400D is \$32.00 and the wall mount 5401D is \$30.00.

CONCLUSION:

Both Select Access™ models are attractive in design. The units are well constructed and easy to use. These are no frills resettable key storage boxes. It's easy to operate and reset the combination. The storage compartment provides ample capacity for just about any need. But most importantly, it features the highly brand recognizable name: Master.

For more information contact:

Master Lock Company
2600 N. 32nd Street
Milwaukee, WI 53210
Phone: 414-444-2800
Fax: 414-449-3162
Web: www.masterlock.com



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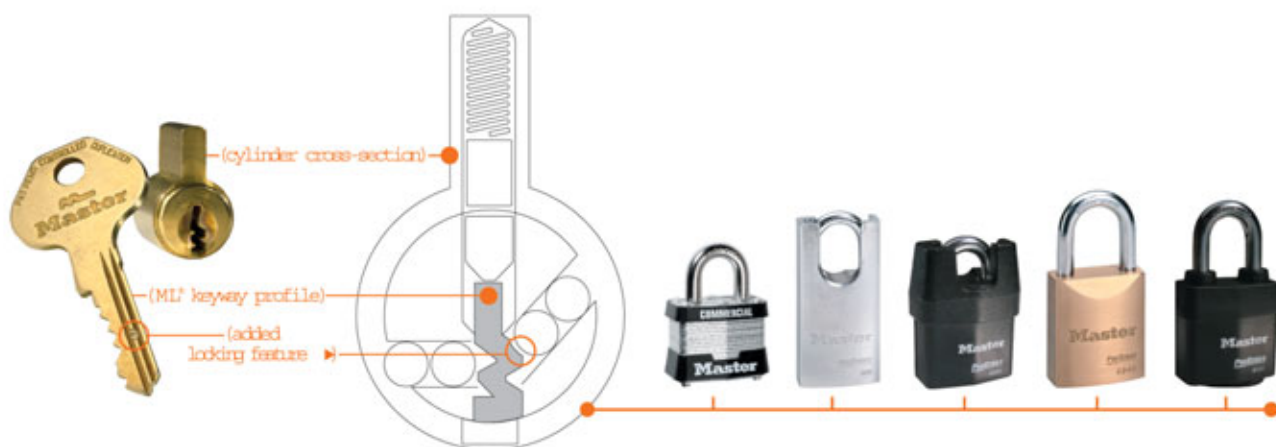
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