

\$5.00

The National Locksmith®

**MORE PAGES!
MORE ARTICLES!
MORE INFORMATION!**
**CODES:
Chrysler L Series
pages 100-109**

May 1994
Volume 65, No. 5

Profits in CCTV

plus
MINI-SECTION
**LOCKSMITH
TOOLS**



CONTENTS

May 1994 • The National Locksmith • Vol. 65, No. 5

FEATURES

8

The 1995 GM Column
We tear down the new column.

18

The Master Lock Door Knob
Servicing the Master knobset.

24

Techniques For Car Opening
Using In-The-Vehicle tools.

27

Wires Make Me Nervous
Choosing wire for your system.

32

Easy CCTV With Amseco
Money making CCTV installation.

38

Seein' Through Doors
Videocoms for entry security.

45

The Locksmith And CCTV
Tying the knot with CCTV.

47

Locksmith Tools
Find the tools to make your job easier.

52

Installing The Vindicator
A new electronic safe lock system.

58

Door-Aid Power Door Opener
Retrofit a power door opener.

66

Southern Steel 1010 Lock
Servicing a new detention lock.

74

Open A '94 Chevrolet S10
Easy and fast opening for the GM pickup.

CODES 100

1994 Chrysler L Series
L0001-L3580

DEPARTMENTS

5

COMMENTARY

6

LETTERS

14

NEWSMAKERS

31

BEGINNER'S CORNER

56

THE LIGHTER SIDE

83

THRU THE KEYHOLE

92

BUSINESS BRIEFS

94

TECHTIPS

99

BITS & PIECES

114

SHOP TALK

118

TEST DRIVE



On The Cover

One new area identified as a profit center for the locksmith is closed circuit television. Easy to install systems are made by various companies, including Aiphone as shown.

**Click on the article
you wish to read**

Editor/Publisher Marc Goldberg

Managing Editor Tom Serogy

Production Director Sandy Kucharski

Art Director Jim Darow

Technical Editor Jake Jakubowski

Technical Writers Carl Cloud, Steve Gebbia, CML, Eugene Gentry, Giles Kalvelage, Dale Libby, Joseph Locke, Tom Mazzona, Dave McQuire, Don Probinco, Sara Procascio, Jack Roberts, Shirl Schamp, Jeff Scott, Rick Segerstrom, Robert Seweking

Director of Sales & Marketing Jeffrey Adair

Advertising Account Manager Debbie Scherzing

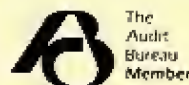
Circulation Manager Diane DeGrace

Assistant Judy Sisk

Advisory Board Mike Elsberry, Steve Dyson, Buddy Logan, Sean DeFores

National Publishing Co.

The National Locksmith® ISSN #0884-3710 is published monthly by the National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107. Second class postage paid at Bartlett, Illinois 60107 and additional mailing offices USPS 040110. Subscriptions \$95.00 per year in the USA, \$50.00 per year in Canada; \$59.00 in all other countries. Single copies \$5.00 each. Postmaster, please send change of address to National Publishing Co., 1533 Burgundy Parkway, Streamwood, Illinois 60107. ©1994 by the National Publishing Company. All rights reserved. Printed in the U.S.A.



Questions or problems with your subscription?

Call (708) 665-0540

For all other inquiries, call
(708) 837-2044, or fax (708) 837-1210.

COMMENTARY

New Rapid Reply Card And Home Security Flier

In the rear of this (and every) issue, you'll find an insert with two Rapid Reply cards. Just circle the numbers of the items about which you want more information. Now you don't even have to dig out a stamp to mail in the card. The cards are now postage-paid. So just tear along the dotted line, circle your numbers, and drop in the mail. It's that easy!



Marc Goldberg
Editor/Publisher

Last month I mentioned that CRIME PREVENTION has been receiving a lot of attention from the media. In fact, things have been getting a little crazy around here.

Yesterday, I was booked to do several more radio call-in shows about crime. I also taped a one hour television show for a large Chicago cable system. I really enjoy doing these shows because it gives me the chance to mention the locksmith's role in security.

What has become very obvious is that people have very little information about how to prevent crime. They believe the old myth: *"If they want to get in, they'll get in. There's nothing I can do."*

A good marketing idea for any locksmith would be to prepare a simple flier called: *Ten Ways to be Safer From Crime*. In this sheet you can discuss many simple facts that will interest your customers. At the top of the flier, put your shop name and phone number. Keep these sheets on your counter, or hand them around the neighborhood to customers and potential clients.

Here are ten ideas you can use to put in your flier. Remember, if we all work together, we can inform the public that they *can* be safer from crime and that the locksmith can help.

1. Lock up your home! According to the FBI, one out of four burglars walk into an unlocked home. Not only must doors be locked, but also windows and garage doors.

2. Stop kick-in attacks! A huge percentage of break-ins occur when a burglar kicks in a door. We sell and install high quality deadbolts. But just as important, we install high security strike plates which prevent a criminal from kicking open a door outfitted with a deadbolt.

3. Trim back your landscape! Burglars prefer a private place to work. If your home is surrounded by overgrown plants, you're giving the thief a perfect environment. Get out the clippers!

4. Broom handles don't lock patio doors! While a broom handle in the track of a sliding glass door might keep it from sliding open, it will not prevent the door from being lifted out of the track. We sell and install special locks for sliding glass doors and windows.

5. Who has keys to your home? Many families lend out keys to workers. If you've recently moved in, you have no idea how many people have a copy of your key. Our professional rekeying service can save your existing locks, but will lock out the old keys.

6. Who's knocking at your door? A simple door viewer allows you to see who's at the door before you answer it. Ask us to install a professional quality viewer.

7. Do your locks work? Many people don't realize that a locking doorknob does not offer sufficient protection. A quality deadbolt with a one inch throw will dramatically increase your safety.

8. Do you feel safe on the street? If not, we can show you a variety of personal security products, from economical sprays to personal alarms.

9. Are you hiding valuables in the home? Thieves usually know where to look for cash and jewelry. A home safe is a great way to protect your valuables to say nothing of your important papers. There are many safes on the market, and quality varies greatly. Let us show you the difference between a poor safe and a secure one.

10. Do your children come home to an empty house? In many families, both parents work. Lots of parents prefer to have us install a pushbutton lock. Your child can use a simple combination. Don't worry about lost keys.

Marc Goldberg

LETTERS

Comments, Suggestions and Criticisms

The *National Locksmith* is interested in your view. We do reserve the right to edit for clarity and length. Please address your comments, praise, or criticism to Editor, *The National Locksmith*, 1533 Burgundy Parkway, Streamwood, IL 60107. All letters to the editor must be signed.

Another Reader For Licensing

Dear Marc,

You looked better without your hair. (I made no points here.)

I agree in licensing locksmiths. I may not have the money or the knowledge to become licensed but I still agree with it.

Reason - I moved to Enid about 2-1/2 months ago. Everyone told me they needed a 24 hour a day locksmith. Since moving, however, I have had only one call. The police open cars and charge \$25 each. The Fire Department opens houses, and every business has a set of car opening tools. I have had an ad in three papers, on the radio, and have handed out over 1500 cards.

I am only drawing Social Security and cannot buy or stock but a small amount of supplies as funds permit. Had I have been able to work until I was 65, I would have had nearly everything I need.

Licensing locksmiths would be a good thing.

Thanks for your time,

George Grantham
Oklahoma

Reader Helped By Articles

Thank you for Auto Test article 29 on the Saab 900.

This answered questions I have asked for years and have given a copy to two people who wondered what to do with these cars "After your keys keep braking."

Also, thank you for the Electronic Security Test articles on Basic Electricity. After five readings I needed some help remembering some of formulas. So, I changed the words a little to make it easy.

Amp, current = outlet
J
Volts = out power
E
Ohms, resistance = plug it in
R

Before you plug it in make sure you have enough juice. I have enjoyed and learned and the price can't be beat.

Christine Porter
South Florida

Reader Feels Slighted By NKL

Dear Marc:

We want to warn others about a company that we have had trouble getting to pay us for services rendered. The company is the NKL Safe Company, located in Chesapeake, VA. These safes are sold to franchises, restaurant chains, etc. They contract with local locksmiths to install and service the safes. One condition of the sale is that there be no other safe on the premises. These businesses are actually digging up their floor safes to comply with this. Every time we call to inquire about getting paid, we are told the check has been cut, we didn't comply with all rules concerning paperwork, or whatever they think of at the time. Last week, we refused to install another one of their safes and told the restaurant manager why. He said that he had talked to several other locksmiths that had also had

trouble getting paid. A word to the wise!

Sincerely,

Bill & Carol Patterson
Texas

NKL Responds

Dear Marc:

As promised, this letter serves as a follow up to our recent telephone conversation on the above subject. As you know, Mr. Patterson accuses us of paying late and of other issues.

First of all, Mr. Patterson has only performed one service call on our behalf. That service was the installation of a safe in Texas. The invoice was paid within 60 days of receipt, which we acknowledge as being a little slow. The slowness is due to our internal process and clearing both the Technical Services and Accounting departments. However, Mr. Patterson, as well as any other NKL authorized locksmith, had an option for quick payment. This option, which is utilized by over 75 percent of our locksmiths, involves pre-coding the invoices, and adhering to our pricing guidelines. Under those conditions, invoices are processed and paid within 10 days of receipt.

The issue of not leaving an active safe on the premises is a result of liability. Simply, our clients (or for that matter, our insurance company) does not want two active safes in the store, since it can be detrimental in the event of a robbery. This is a requirement imposed on us by our clients and is something that should not affect the locksmith's relationship with our company (simply, if he does not like the arrangement, he has the choice of refusing to do the work). As a matter of fact, most of our locksmiths like this arrangement, since they manage to get a free working safe out of the

deal, which they can re-sell for added revenue.

Thank you for the opportunity to respond to this issue.

Sincerely,

Ray Lorenzo
NKL Industries, Ltd.
NKL Safe

Reader Finds Problems With Test Article

Dear Marc:

After reading your article on General Security Test #31, November 93, on "Power In Your Service Vehicle" it drove home a point that I have come to expect from all of the trade magazines that I receive.

The article was well written and full of information about one product listed at the end as is all your test articles.

Other than Christmas lights I don't know of any circuit (other than electronic) that would use series wiring and to spend so much space telling about it is questionable other than to say don't use it.

In explaining about amp requirements, you overlooked a big problem, first the total amp required was based on using all of your equipment at the same time. I don't know about you but I can only run one machine safely at a time, so your amp requirement is of the machine with the maximum amperage.

Second, what is the starting amperage draw of the machine? It may be rated at 5 amps, but draw 7-10 amps to start and if so will cause a 5 amp generator or inverter to eventually brown-out or even burn out itself. Third, is the machine a capacitor start or a regular motor because say a machine rated at 5 amps with a capacitor starter may draw up to 15 amps to start and will not run off a self starting generator no matter how many watts it may be rated at.

I enjoy your magazine, but most of the time your advice articles don't give a complete picture.

Thank you,

Richard J. Donovan CRI
Pennsylvania

Richard,

Thank you for your input. Let me respond to your points in the order you listed them.

First, our articles are not based on one product; especially the test articles. These articles are based on giving a solid technical background in the area being discussed. With the limited amount of space for technical material, we can't include the names of all products that apply. We don't want to give you a catalog.

For articles that do cover one product, the mortise lock series and exit device series for example, these are technical articles describing how to service the products that we as locksmiths come across on a daily basis. There is no hype or marketing points being scored here. They simply are to be used as reference material.

Many of the magazines you receive contain advertiser written "fluff." While we occasionally run advertiser written articles they must be of technical nature or benefit the locksmith or they do not get printed.

Point two: The series circuit is the basic circuit upon which electrical theory has been based. Ohm's Law and Kirchoff's Law for example are based on the series circuit. To try and explain parallel circuitry without thoroughly covering series circuitry is like trying to teach a person to build a house by starting on the types of paint to use after it has been built.

By your letter I can appreciate that you have an understanding of electricity. That's to your credit. Unfortunately, many of our readers are just starting to understand electricity and its importance in their future business.

Point three: In general you are correct in saying you will use only one machine at a time, so the maximum power requirement should be based on the need of the largest machine.

However, I have been to sites where one employee was cutting keys on a duplicator and brushing them on a grinder while another employee was running a power drill. Setting the power system up to handle all the equipment may be overkill, but it certainly is safer.


Point four: Again you are correct.

When a motor starts, there is a tremendous and instantaneous surge of current. This can often be well above the ratings of the equipment. Fortunately, the manufacturers of the power supplies understand this and make many provisions in their product for this occurrence. Also, the article states that your power supply should exceed the power requirements by 10 to 15 percent, just for this reason.

Point five: Once again you are correct, the typical inverter and generator that the locksmith will use cannot normally operate a capacitor start motor. However, unless the locksmith is intending to run a central air conditioner or a large freezer with the power device, he has little need to worry. The power equipment locksmiths use typically operate with single phase, fractional horse motors that are well within the limits of the inverters and generators used.

Again, thank you for your letter. It's locksmiths like you that keep us on our toes!

Editor



ASP - Your Auto
Service Center
for the World

[Click here for more information](#)

THE 1995 GM COLUMN

"The new design incorporates a two-piece clam shell column shroud, a unique two-piece plug and cylinder housing assembly, and an airbag."

by Fred Kosloske

Coming up in 1995 General Motors is (again) introducing a new column. (See photographs 1 and 2.) This particular style is used on the 1995 Chevy Blazer S/T and the



1. The new GM steering wheel and



2. ...column.

Suburban C/K. The new design incorporates a two-piece clam shell column shroud, a unique two-piece plug and cylinder housing assembly, and an airbag. Special features in this column strike a nice balance between ease of service and security.

These GM models are going to be single key vehicles using the just released 1994 GM codes, keyblanks, tumblers and springs. The ignition uses the first nine cuts of the key. The door locks will use the last five cuts, or spaces six through ten, of the key.

Servicing The New Column

The first major change is airbag removal. A new retaining method holds the airbag module to the steering wheel using four self-locking posts. With this new design airbag removal is easy and quick.



3. To remove the new airbag style, depress the release buttons through the access holes on the back of the steering wheel.

Disconnect the battery, remove the SRS fuse, and wait 15 minutes (this is standard operating procedure for GM's with airbags). Then use a small Allen key or other right angle probe to reach into the airbag release holes in the back of the steering wheel. Pushing in releases the post and allows the airbag to be removed. To replace the module, simply snap it back into place. (See photographs 3, 4, and 5.)

With the module removed, use standard GM steering wheel removal procedures to remove the steering wheel.

Next, remove the column tilt lever. This lever is found at the bottom-left side of the column. (See photograph 6.) Simply grab and pull to remove



4. The airbag module has four self locking posts. When pressed into place, the ball bearings on each post lock the unit in place.



*We have it all.
Quality, Value, & Service.*

[Click here for more information](#)



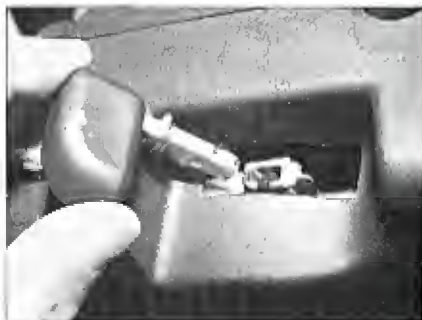
5. Depressing the center of the post releases the ball bearings and allows the module to separate from the steering wheel.

this lever. (See photograph 7.)

Remove the two Philips head screws holding the bottom shroud to the column. (See photograph 8.) Tilt it down and push towards the back to release it from the upper shroud. (See photograph 9.)



6. The tilt lever is found on the left, bottom side of the column.



7. Simply pull to remove the lever. It may be hard, but it does come out.



8. Remove two Philips head screws from the bottom of the lower shroud.



9. Hooks at the back of the bottom shroud attach it to the top shroud. Disconnect and remove the bottom shroud carefully so that these are not broken.



10. Removing the bottom shroud reveals the two screws that hold the top shroud to the column.



*The Innovation You
Expect, with the
Flexibility You Need!*

[Click here for more information](#)

Remove the two Philips head screws fastening the upper shroud to the column. (See photograph 10.)

With the shroud removed, the new cylinder housing and plug can be seen. The housing is attached to the column and houses not only the plug but also two gears and a gear cover. (See photograph 11.)

Plug Removal

In most instances it is necessary only to remove the plug. The plug is held in place using two retainers. One is a lug found at the end of the plug. This lug must align with a broaching in the cylinder housing before the

plug can be removed. The other retainer is spring loaded and must be depressed to remove the plug.

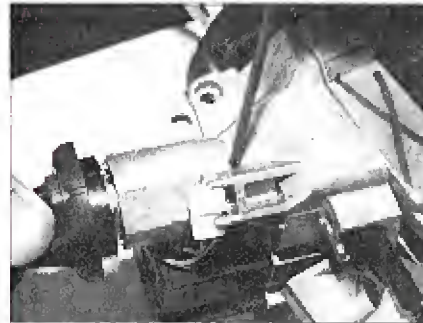
If keys are available, turn the plug to bring the spring retainer under the small access hole on top of the housing (the lug is now aligned with the broaching as well). Depress the retainer and slide the plug out of the housing. (See photographs 12 and 13.)

If keys are not available, it is probably best to remove the facecap or wings and drill the sidebar. This allows the plug to be rotated and removed.

An attempt at depressing the



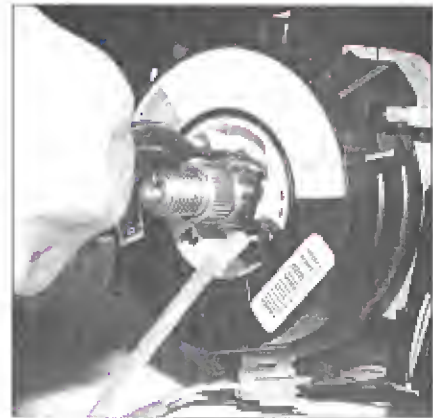
11. The new cylinder housing, switch and plug.



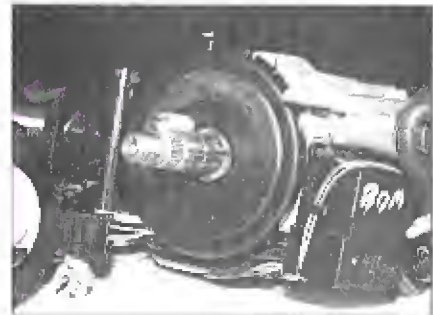
12. After turning the plug, depress the retainer through the access hole at the top of the cylinder. The small wire switch next to the hole is the buzzer switch.



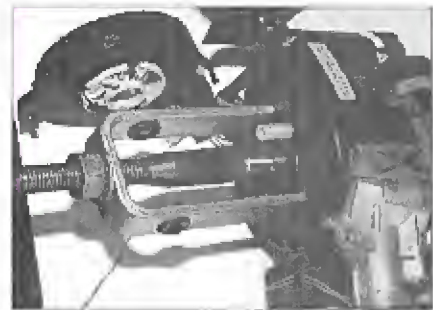
13. The new plug has the code stamped on it.



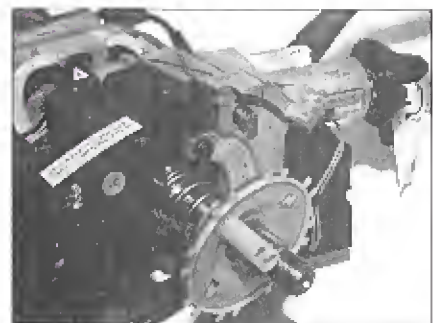
14. Remove the clockspring.



15. With the clockspring gone, the steering wheel lockplate is visible.



16. Removing the steering wheel lockplate.



17. The lockplate removed

sidebar and picking was fruitless. The new style tumblers are designed with false sidebar gates that prevent it from being picked, at least in a reasonable amount of time.

Housing Removal

Should it become necessary to remove the whole housing, first remove the airbag clockspring. (See photographs 14 and 15.)

Using a steering wheel lockplate compressor, remove the lockplate. (See photographs 16 and 17.)

The truck models with automatic transmission will have a key/shifter

interlock cable entering the ignition housing at the top of the housing near the buzzer switch. Using a screwdriver or other blunt tool, depress the retaining clip and remove the cable. (See photograph 18.)

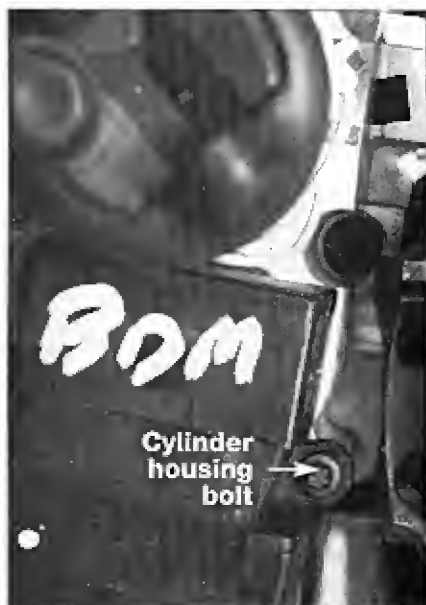
HPC, Inc.
Designing
Excellence and
Manufacturing
Quality since
1956

[Click here for more information](#)

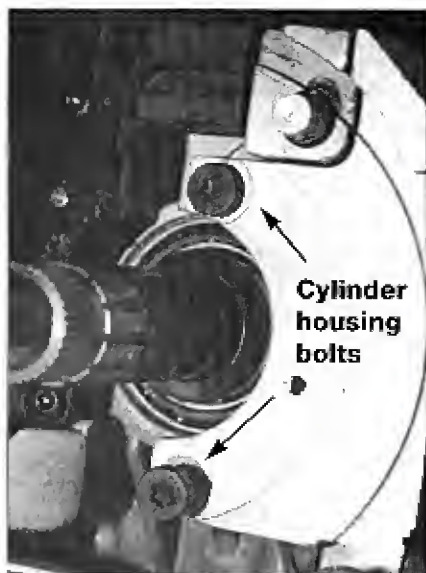


18. Depress and remove the key/shifter interlock cable.

There are three T25 bolts to remove to separate the housing from the column. One is hidden behind and underneath the housing's plug sleeve.



19. One bolt is hidden behind the plug sleeve of the cylinder housing.

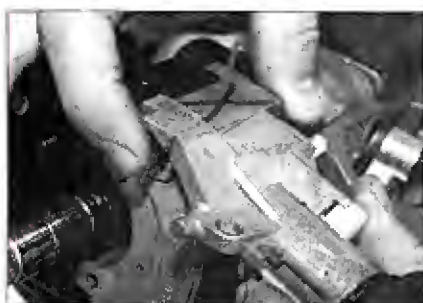


20. The other two bolts are visible after removing the steering wheel lockplate.

the other two can be seen from the front. (See photographs 19 and 20.)

Remove these bolts and, while holding in on the steering wheel lock bolt, pull the lock housing from the column. (See photograph 21.)

Now remove the buzzer activator switch found at the top of the housing. (See photograph 22.) On the inside, next to the housing there is a small retaining lever on the switch. Use a small flat blade screwdriver and push the lever towards the switch body. Depressing the retainer lever allows



21. After removing the bolts, hold the steering wheel lock bolt in place while gently separating the housing from the column.

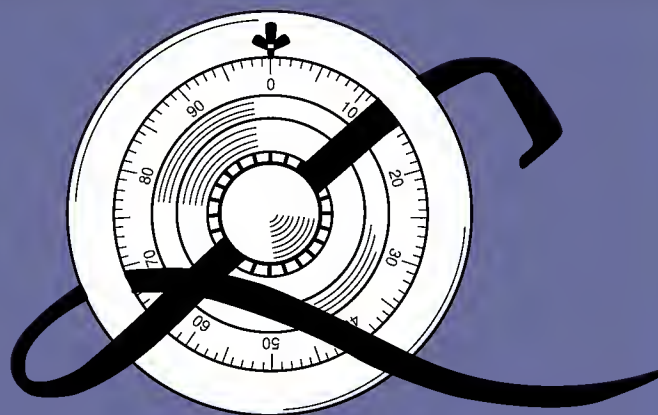
the switch to pivot or rotate clockwise, letting it drop out from the housing. (See photographs 23 and 24.)



22. The buzzer switch.



23. Use a small screwdriver or probe to depress the switch's retainer, then rotate the switch clockwise.



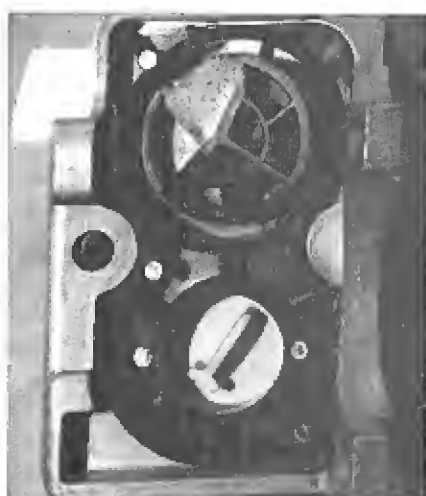
Lockmasters has a 44 year history of training security professionals.

[Click here for more information](#)



24. The buzzer switch. The lever or tab on the side of the switch is the retainer.

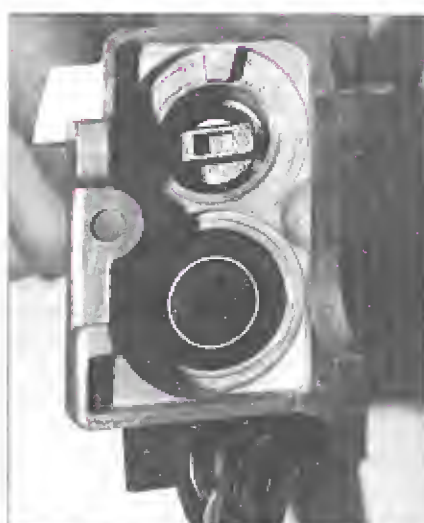
From the back, two gears and a gear cover can be seen. (See photograph 25.) One gear is the sector gear driven directly by the plug. This gear activates the steering wheel lock bolt and the second gear below it. The second gear drives the ignition switch.



25. The back of the housing reveals the two gears and gear cover within it.



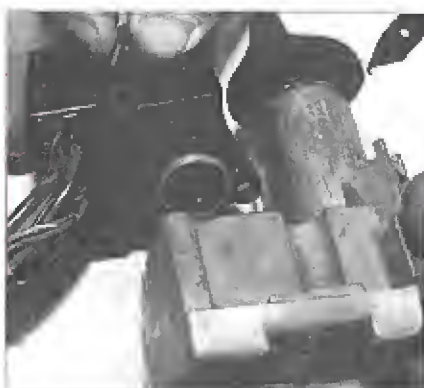
26. The gears and gear cover. The upper gear is driven by the plug and activates the steering wheel lock bolt and drives the second gear below it. The second gear activates the vehicle's ignition switch.



27. With the gears removed, the plug (top) and ignition switch can be seen.

The gears and the gear cover drop out of the housing. (See photographs 26 and 27.)

The ignition switch is mounted to the outside of the housing, just below the housing plug sleeve. It is held in place by two Torx headed bolts. Use an E5 socket to remove them. (See photograph 28.)



28. Using an E5 socket, remove the two bolts that hold the ignition switch to the housing.

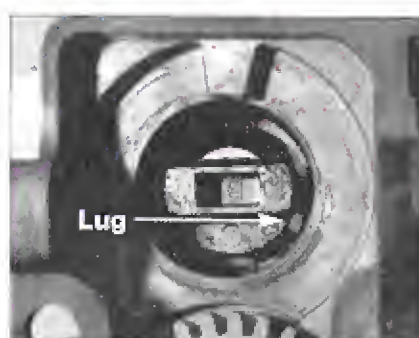
Alternate Plug Removal Method

An alternate plug removal method may be possible at this point. Going in from the back of the lock housing, use a Dremel tool to remove the small lug found at the end of the plug. Then use a pick to depress the springed retainer and slide the plug from the housing. (See photograph 29.)

The plug can be reused, but its security has been compromised.

Reassembling The Column

Reassembly is completed by reversing the steps for disassembly. There are, however, a few things that



29. Having access from the rear, use a Dremel tool to remove the lug off the plug and then depress the retainer to remove it from the housing.

can be done to make it easier.

When reattaching the cylinder housing to the column, make sure and depress the steering wheel lock bolt. This allows it to line up with the sector gear properly. (See photograph 30.)



30. Depress the steering wheel lock bolt before replacing the cylinder housing.



31. Replacing the steering wheel lock plate.

When replacing the steering wheel lock plate, we found that the steering shaft was not long enough to let us use the steering wheel lock plate compressor. Instead we used the Kent Moore BTS215F lock plate snap ring tool and the 8274-1 extension. After placing the lock plate and lock plate snap ring on the steering shaft, the tools were used to depress the lock plate and ring into place. (See photograph 31.)

The author is the Technical Service Representative for Briggs & Stratton.

NEWSMAKERS

New Products and Industry News

New Safes By Gardall

Gardall Safe Corporation is pleased to announce its new state-of-the-art relocker on safe models 1511-171718.



The new wing back relock cover was put into production on September 2, 1993 beginning with serial #S-131405 and is an improvement over models with the earlier generation relocking device. Safes with the new wing back relock cover are less susceptible to accidental firing. Accidental firing can occur when safes are handled improperly during shipping or when the door of the safe is slammed shut. These factors were taken into consideration by the engineering department when the new relock cover was designed.

Look for more new products in the near future from Gardall Safe Corporation.

For **FREE** Information
Circle 227 on Rapid Reply

Lockmasters' CCTV Equipment

Lockmasters, Inc., the Kentucky-based company which for years has been the leader in the supply of physical security locks, parts, tools and education, has extended its product line to offer basic electronic perimeter security equipment.

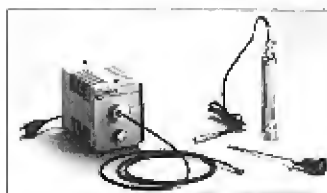


The inexpensive CCTV system is easy to install and ideal for business owners who need to monitor their shops 24 hours a day. The basic system includes a wide-angle camera, an outdoor intercom, and a compact monitor with built in microphone and speaker.

For **FREE** Information
Circle 228 on Rapid Reply

MDS' PS-100 Borescope

According to MDS, this simple to use instrument contains a sophisticated optical train containing over 15 optical elements to convey a high resolution right reading, upright image to the viewer. This state-of-the-art scope also features a 95 degree field of view which



virtually eliminates the need for angle mirror tubas.

For **FREE** Information
Circle 229 on Rapid Reply

New Fire Safe By Sentry

For those who want superior protection in a fire safe, one that will survive even if the home doesn't, there's a new Sentry on duty providing "advanced, affordable and assuring" fire security.



Designed to protect irreplaceable documents and precious keepsakes during the most severe home or office fires, the new Sentry Fire Safe® Model 3100 offers two full hours of UL tested fire protection up to 1850 degrees F. Most home fires reach a temperature of around 1000 degrees F.

In addition to maximum fire protection, the new Model 3100 is theft-resistant and features six live-locking bolts, optional floor/wall bolt down system, pry-resistant butted seams flush door design, and privacy shroud around dial.

For **FREE** Information
Circle 230 on Rapid Reply

Redi-Line Brochure

Pacific Scientific Company's Motor & Control Division offers a new brochure describing its Redi-Line™ series of power conversion products for mobile and remote applications.

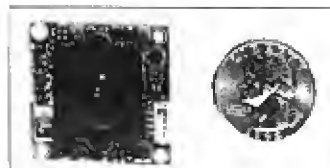


Redi-Line generators and inverters operate from 12 VDC vehicle batteries to run 120 VAC, 60hz power tools, appliances and other electrical equipment where commercial power is not conveniently available. Redi-Line inverters will additionally operate sensitive electronic equipment that requires a regulated output, or equipment requiring up to 2000 watts (continuous), 2400 watts for up to 15 minutes, and surge outputs of up to 5900 watts. Power conversion efficiency is between 85 to 93 percent.

For **FREE** Information
Circle 231 on Rapid Reply

Chinon CX-060 Mini-Camera

Chinon America, Inc. announced the CX-060 "mini" board camera.



Chicon's new CX-060 single board type monochrome 1/3 CCD chip cameras represent an exciting new step in ultra-compact solid state CCTV camera micro miniaturization. Its viewing and positioning flexibility offers a limitless variety of electronic imaging, security, industrial, and special observation applications, and its revolutionary small size broadens its potential even further.

The micro-size CX-060 measures 1-1/4" (w) x 1-1/4" (h) x 1-3/16" (d) and weighs just .59 ounces making it highly appealing for even the lightest space requirements.

For **FREE** Information
Circle 235 on Rapid Reply

Mini-Mite By Dortronics

The Mini-Mite electromagnetic lock is compact and powerful, ideal for locking drawers, cabinets, doors and pedestrian gates.

With 300 pounds of holding force the unit is 100 percent weatherproof, and accepts 3/4" conduit coupling.



For **FREE** Information
Circle 246 on Rapid Reply

TechniKey™ By Frame Inc.

The recent Frame Inc. introduction of a TechniKey™ vertical keypad design was quickly followed by the expected acceptance of the new offering. Customers began applying the new 4" x 6" vertical design in a wide



variety of applications other than just the intended pedestrian walk-up application.

The vertical design was carried over into all three of the company's model series: 3K for self-contained use, 4K for a stand-alone network, and 5K for a computer connected network.

The latest production housings feature a thinner profile than earlier units. The depth of the housing is nearly 1/2" less.

For **FREE** Information
Circle 236 on Rapid Reply

Innovative Moving's Lectro-Truck

Innovative Moving Systems, Inc. announces a unique concept in materials handling equipment. Lectro-Truck is a remarkable battery-powered hand truck that works as a combination stair climber, load lifter, and power truck tailgate



that is easily operated by a crew of one, and handles a maximum load capacity of 1500 lbs. (675 Kg.) Lectro-Truck is portable and is operated with push-button ease from above the load.

For **FREE** Information
Circle 237 on Rapid Reply

Major

MANUFACTURING, INC.

Installation Tools

The Professionals Choice

[Click here for more information](#)

Leslie-Locke's Security Door

Leslie-Locke's new D20 Durado heavy duty security door is designed to provide maximum protection for those homeowners who feel a pressing need to secure their homes from intruders. The solid steel twisted vertical bars of the D20 go a step further than traditional hollow steel bars to create an effective barrier against break-ins.

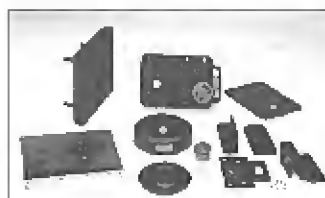


The security provided by the D20 is enhanced by its double lock box and heavy duty hinges. One-way screws included for installation are tamper proof. The D20 accepts any standard 2-3/8" backset locks; consumers may select their own style and finish. Quality and strength are assured by the door's all-welded steel construction.

For **FREE** Information
Circle 238 on Rapid Reply

Mas-Hamilton's Door Lock

Mas-Hamilton Group, the Lexington, Kentucky based manufacturer of high security locks, the Lexington, Kentucky based manufacturer of high security locks, today unveiled its latest addition to the high security products field. This product successfully adapts Mas-Hamilton's highly successful Model X-07 self-powered electronic combination lock to security



doors. The patented design of this product permits installation of the Ultra-high security locking system on a strongroom door while retaining the internal escape quick release features required to comply with safety codes. This permits use of the Model X-07 door lock in a wide variety of strongroom applications including Sensitive Compartmented Information Facilities (SCIFs), high security warehouses, weapons and ammunition storage facilities, nuclear production and storage facilities, and other structures which require high security but are also occupied by personnel. The door lock retains all the features of the basic Model X-07 including the two person integrity option, anti-manipulation safeguards and the electronic audit capability showing number of openings and number of unsuccessful attempts to open the lock.

For **FREE** Information
Circle 239 on Rapid Reply

National Cabinet's Pin Tumbler Locks

National Cabinet Lock has a full line of pin tumbler cylinder cam locks. They can be used for drawers, right-hand or left-hand doors



(flipped or overlay) or lids. Construction is a choice of die cast or brass.

Models with 5-pin tumblers enable 2,000 key changes; 4-pin tumblers offer 850 key changes. Many keying options are available, including keyed alike, keyed alike in sets, keyed differently, or masterkeyed with sub- and grand-masterkeying. Key removal may be in locked position only, or in both locked and unlocked position.

National Cabinet Lock offers a wide range of cylinder lengths and cam configurations to suit virtually any application requirement.

For **FREE** Information
Circle 240 on Rapid Reply

Northwest Lock & Supply Company

Northwest Lock & Supply Company, a Wholesale Locksmith Supplier located in Oregon, is proud to announce the addition of many new product lines for 1994 to their ever growing inventory.

Northwest Lock Supply is currently developing a line of Automotive Keying Kits utilizing factory original parts while minimizing the cost to the locksmith. All kits are fully expandable if popularity of application warrants.

The 1994 General Motors Ignition keying kit (part # NLS-GM 94), is already in production. The Chrysler-Jeep-Saturn kit (part # NLS-CJS94) will be available in late February. Depth Key Sets are available for use with all our keying kits.

Other lines added this year include Chicago Lock Co., Lori Lock Co., Majestic Picks, and Federal File Co.

Because the owners and employees of Northwest Lock Supply have strong locksmith backgrounds we strive to try and supply the locksmith trade with quality made products at competitive prices. We encourage our customers to call even if they only have a

medeco[®]
HIGH SECURITY LOCKS

**The market leader in
locking systems for
security, safety, and
control.**

[Click here for more information](#)

technical problem they are having trouble with as we want to be more than just another Locksmith Supplier. We believe, "Your Success is our Future Success."

For **FREE** Information
Circle 241 on Rapid Reply

Securitron's New Timer

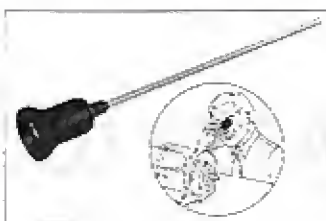
Securitron announces a new multi-function timer, The Time Master TM-2. The TM-2 is an upgraded design which replaces the Securitron's TM-1. The TM-2 operates on 12-24 volts, AC or DC and includes a 5 Amp DPDT output switching relay. Dip switches select any of seven different logic timing functions: On delay, triggered on delay, off delay, one shot, toggle, pulse generation and cyclic. The time range, which can be set for any function, runs from 1 second to 255 minutes with the time being exactly set by Dip Switches rather than being dialed in from a pot. Taking advantage of recent advances in chip technology, the TM-2 feature a 20 percent lower price than the TM-1. The power and flexibility of the TM-2 makes it ideal for a wide variety of security applications.

For **FREE** Information
Circle 242 on Rapid Reply

Peep Scope By Titan Tool

A low cost, complete borescope is announced by Titan Tool Supply Co., Inc., Buffalo NY. The Peep Scope is priced at only \$250 and is offered in two styles: Model No. 75-0-6, for straight-forward viewing, and Model 75-60-6, for angular viewing.

With an unusually large field of view of 95 degrees, which creates a "fish eye lens effect", the straight-forward viewing Model 75-0-6 allows the viewer to see forward with 47.5 degrees sideways peripheral vision, while the angular-viewing Model 75-60-6, which has a normal angle of 60 degrees, gives



the user a 12.5 degree to 107.5 degree field of view. Together, the two models offer a total 215 degree field of view, a feature most other industrial borescopes can not duplicate.

For **FREE** Information
Circle 243 on Rapid Reply

Lock Guard By Automatic Gate

The new Americans with Disabilities Act (ADA) is written to protect rights.

Unfortunately, without the right planning and equipment, results can sometimes be just the opposite. Your customers can lose their right to the protection you want to provide.



The ADA requires that lever locks be used on many gates and doors. Lever locks can be easily defeated when the gate is constructed with any perforated material, such as chain link, steel pickets, or expanded metal. Lock Guard provides the installer with an extremely effective, high quality, interior guard.

Lock Guard is a one-piece assembly and is easily attached to most gates with screws, bolts or welding. Every Lock Guard is made from gauge cold-roll steel and plated with zinc chromate for protection.

For **FREE** Information
Circle 244 on Rapid Reply

NATIONAL

AUTO LOCK SERVICE, INC.

National Auto Lock Service, Inc. offers a wide range of equipment and services for the Automotive Locksmith. From tools and hard to find key blanks to transponder programming, we can take the mystery out of car service. We accept credit card orders, and can ship COD. Contact us for the latest in automotive technology.

www.laserkey.com

GENERAL SECURITY

THE MASTER LOCK DOOR KNOB

Test Article #49

by Giles Kalvelage

It's not news that Master, the nation's most recognized name in padlocks, purchased Dexter Lock a number of years ago. Veteran locksmiths will remember Dexter Lock as a quality manufacturer of doorknobs and deadbolts. According to a Master Lock representative, that is one reason that they chose Dexter when deciding upon expanding into door security hardware. Master Lock already knew that they themselves had name recognition. Instead of re-inventing the lockset to enter the home door security arena, they felt it best to acquire an existing player. Where Dexter was generally a locksmith sales and service item, Master Lock locksets and deadbolts can now also be found in most hardware stores and many discount stores across the nation.

Two packages are available from Master. The standard retail package using clear bubble packaging or the boxed package. The knobset of the retail package can be identified by two exposed mounting screws that hold the knob halves to the door and the universal latch. The universal latch accommodates 2-3/8" or 2-3/4" backsets, and drive in or face plate door preparations. Two latch faceplates come with the latch, one with rounded corners and one with square corners.

Unlike the retail package, the boxed package offers a number of ordering features for the locksmith. In this package only, either the standard knobset with exposed mounting screws or a knob with a concealed screw rose can be ordered. While the standard latch in this package is 2-3/8" standard, the universal latch can be ordered instead at no extra cost. Another nice feature of the boxed package is the availability of cylinders with different keyways. The standard Master, Schlage C, and a composite

(Kwikset, Weiser, and National) keyways are available. To accommodate the locksmith, the knob-less-cylinder and cylinders can be ordered separately, allowing the

locksmith a greater range of application without carrying a large inventory.

Today's topic concerns the retail packaged, Grade 2 knobset from Master. While listed as grade 2, the main target market of this lockset is residential.

While mounted on the door, it can best be identified by the Master name on its latch faceplate. (See *photograph 1.*) With the lockset off of the door, the Master name also appears on the inside top of each knob rose. (See *photograph 2.*)

Installation

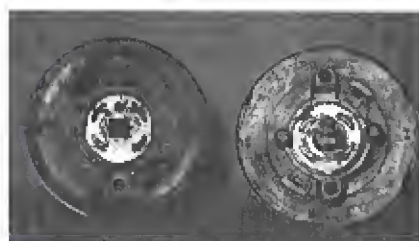
The lockset mounts into standard door preparations, with 2-1/8" crossbore at a 2-3/8" or 2-3/4" backset, with a 7/8" or 1" edgebore. A universal deadlatch is available, which conveniently installs in either backset for drive-in or mortise latch preparation. A standard 2-3/8" deadlatch with square faceplate was supplied with our sample.

Installation is easy. First, install the deadlatch into the edgebore. A spacer ring is supplied to keep the latch body secure if installed into a 1" diameter crossbore. The spacer ring is not required if the latch is installed in a 7/8" diameter crossbore. (A spacer ring was not included in our sample.) If the deadlatch is of mortise design, install the two face screws to complete the latch installation.

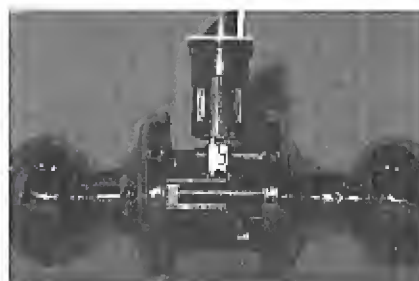
Place the inner and outer knob assembly together on the door. A user friendly design feature of the Master lock line is that the lockset will "stay in place" on the door during assembly without the mounting screws. (See *photograph 3.*) With many locksets, it seems like three hands are required to hold the lockset in place during installation to prevent the pieces from falling to the ground and denting. Two mounting screws located at the 12 and 6



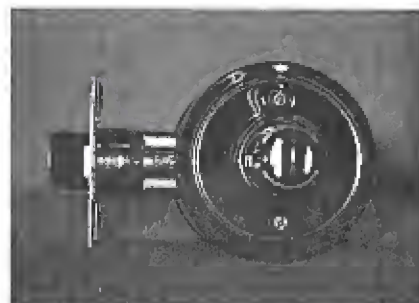
1. The Master knobset can be identified by its name on the latch faceplate...



2. ...on the inside of each rose.



3. The lockset stays together without the screws, allowing for hands free installation.



4. Two screws hold the unit together

o'clock positions of the inside knob rose are now secured. (See photograph 4.) Slide the inner knob onto the inner spindle assembly until it clicks into place. (See photograph 5.) Install the strike and the job is finished.

On the concealed screw version, the inside rose comes as two parts, a backplate and separate rose cover. The screws go through the backplate to hold the two knob halves to the door (just like the retail version). Then a decorative rose cover is fit over the backplate (covering the screws) and turned to lock in place.



5. The inner knob in place.

Rekeying Procedures

There are two methods for rekeying the Master knobset. One involves removing the knob from the door to remove the cylinder. In method two, the cylinder is removed with the knob still on the door.

Method one: Remove the lock from the door. Once removed, the turnbar portion of the spindle must be pulled. (See photograph 6.) While the turnbar is fully retracted, rotate the cylinder



6. To remove the cylinder, pull the turnbar.



7. Then use a working key to turn the plug 180 degrees and remove the cylinder from the knob.



Make Sargent &
Greenleaf's
Comptronic Locks
your choice for
electronic safe
locking solutions.

[Click here for more information](#)

plug with an operating key 180 degrees counterclockwise and pull the key outward removing the cylinder assembly. (See photograph 7.) If no operating key is available, fully retract the turnbar, secure the turnbar in place with a vice-grip tool against the outer spindle and pick the lock 180 degrees counterclockwise and pull the cylinder assembly out with a pick or a probe.

Method two: Remove the inside knob handle. (See photograph 8.) The turnbar will be visible through the spindle. Using a small screwdriver, grab the spindle (a notch appears in the side of the bar) and pull the turnbar back. (See photographs 9 and 10.) With the bar back, rotate the plug 180 degrees counterclockwise and remove the cylinder.



8. Remove the inside knob.



9. The turnbar in the center of the spindle has a notch in it.



10. Use a small screwdriver to grab turnbar by the notch and pull it back. Then turn the plug 180 degrees and remove the cylinder.

To remove the plug from the shell requires careful observance of the five pieces attached to the back of the plug. The snap ring (correctly installed with the gap facing downward) is removed using a Triarc pliers. (See photograph 11.) The stop washer is then removed. (See photograph 12.) (When re-installing the stop washer, be sure the bumps are facing away from the lock cylinder.)



11. To remove the plug for rekeying, remove the snap ring.



12. Then, remove the stop washer.

There are then two cylinder stops and a "C" clip which need to be removed. (See photographs 13 and 14.) The stop washer simply lifts out of the detente, as do the cylinder stops, the "C" clip pries off gently with a screwdriver. Photograph 15 shows the five parts as removed from right to left.

After these parts are removed, a plug follower may be used to remove the plug. Caution needs to be observed to avoid removing the plug while the slot at the rear of the plug is in line with the bible. (See photograph 16.) If caution is not observed, the top pins and springs will drop through the slot. Fortunately, if this happens, they can easily be reloaded into the bible using standard procedures. Reassembly of the plug is reverse of disassembly.



13. Finally remove both cylinder stops.



14. Remove the snap ring.



15. All the components removed from the back of the plug.



16. Use a plug follower to remove the plug.

Notes

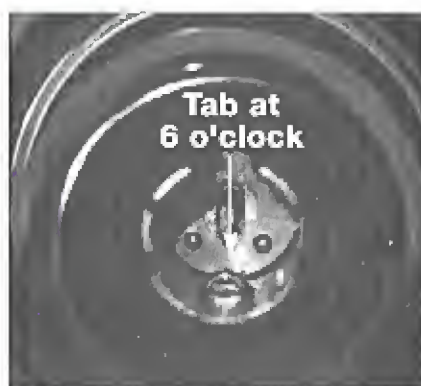
The stop washer is designed to have a detent in it which lines up to the tab located at the 6 o'clock position inside of the outer spindle. (See photograph 17.) When the cylinder plug is turned to the 12 o'clock position, the stop washer holds the cylinder in place. The cylinder stop and turnbar prevent the cylinder plug from rotating to the 180 degree position.

The finished trim cap of the cylinder face is removable by simply pushing your thumbs against the edge

SCHWAB CORP.
Fire protection for your vital records.

It's not
safe
unless
it's
Schwab
Safe.

[Click here for more information](#)



17. The small tab at the bottom of the knob retains the cylinder.

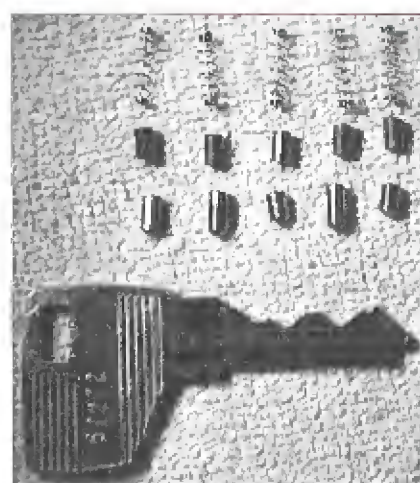


18. Simply use the thumb to remove the cylinder trim cap.



19. The cylinder facecap removed.

of the cap. To prevent deformation or scratching of the trim cap, only fingers and thumbs should be used for this procedure - not screwdrivers or pliers. (See photographs 18 and 19.) Master produces a variety of cylinder housings using keyways available to match those of Schlage, Kwikset, National, Weiser and, of course, Dexter. Once a cylinder assembly is chosen other than from the original lockset, the cylinder trim cap must be removed from the original cylinder and snapped onto the replacement cylinder.



20. The Master keyblank.

Keying

The new Master key blank has a comfortable, uniquely shaped bow. The blade, however, is that of Dexter 67 (Jet/Cole/Curtis DE6). (See photograph 20.)

Depths and Spacing

IPC 1200: Card #16
Shoulder to Center of first cut: .216"
Cut to cut: .156"
MACS: 6

Root Depths:

- 0 .320"
- 1 .305"
- 2 .290"
- 3 .275"
- 4 .260"
- 5 .245"
- 6 .230"
- 7 .215"
- 8 .200"
- 9 .185"

Pin Lengths

Top Pin: .185"

Depth Code	Bottom Pin	Master Wafer
0	.165	NA
1	.180	NA
2	.195	.030
3	.210	.045
4	.225	.060
5	.240	.075
6	.255	.090
7	.270	.105
8	.285	.120
9	.300	.135



AUTOMOTIVE SECURITY

FINAL TECHNIQUES FOR CAR OPENING

Test Article #50

The final techniques for car entry are the "In-The-Vehicle" methods. No, this term does not mean we are going to employ a ball-peen hammer as an opening tool. Instead it refers to tools that allow us to get under, over or around a window and/or its frame and enter the passenger compartment

There are four common techniques to this method. One of the oldest and most common is the wing window attack. Here, tools are used to open the wing window, allowing the locksmith access to inside release handles, lock buttons or the keys. This technique is especially affective with full-sized vans.

In most cases a swiveling arm or lever is used to hold the wing window closed. Included in the lever is a locking button. This button is designed to stop someone from using a coat hanger or wire to reach in and easily lift the lever out of the locked position. As a result, it is necessary to use a tool to first depress the button and then use another tool to lift the lever out of the locked position.

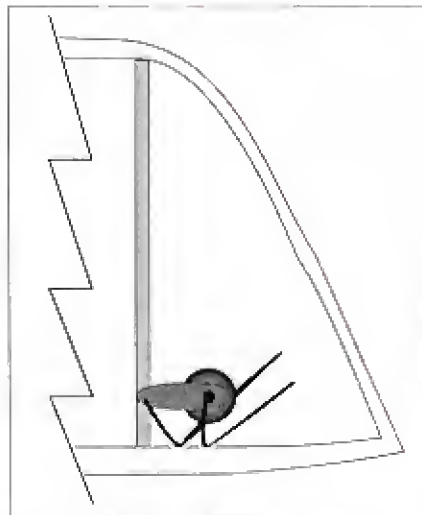
To do this, form two small tools with a right angle. Lubricate the tools with silicone spray or soap and insert them between

the weather strip and the window, near the lever.

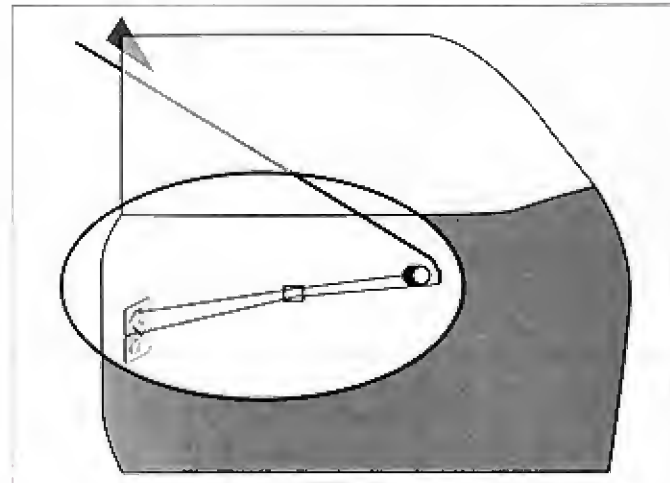
Gently bring one of the tools up to the locking button and depress and hold the button. Place the other tool under the lever and lift. (See illustration 1.)

The next technique involves pulling the window back far enough to insert a long stick, tool or pole to hit the lock button, pull the inside release handle, or retrieve the keys.

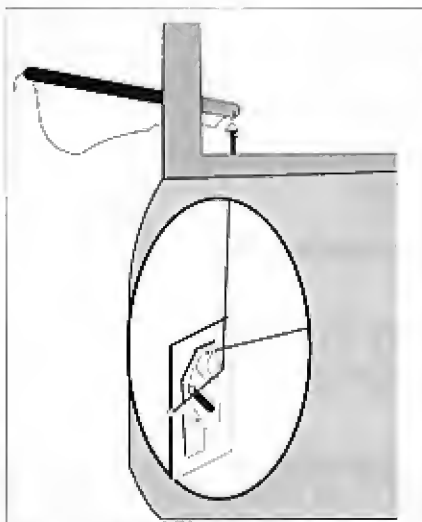
Because this method involves pulling the window out from its normal position, it is most effective on



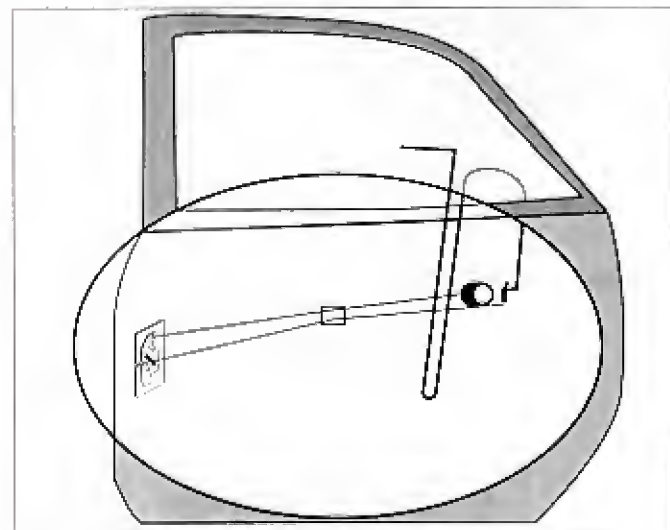
1. Many vehicles, especially full sized vans, can be entered by first opening the wing window.



2. Gently pulling the window back on a frameless window, allows a tool to enter for retrieving the keys or activating a lock button.



3. Several tools can be made out of plastic and string to grab the lock button on many cars with vertical lock buttons.



4. The Under-The-Window tool has become a very popular tool since General Motor's introduction of modular linkage, and the increased use of protective covers and guards on other vehicles.



vehicles that do not have framed windows. While tools are available for pulling back windows with frames, the risk of doing permanent damage to the vehicle is usually not worth the attempt. Remember, there is always more than one way to get into a car!

Generally, on vehicles with frameless windows metal or plastic tabs are used to hold the window tight in against the weather-strip. To pull the window open, gently pry out at the top outside edge of the glass and work towards the front of the car. In most cases the window can be slipped out from under the tabs and pulled away from the car. Using a window wedge to hold the window back or open, a tool can be slipped down into the passenger compartment to unlock and open the car, or in some cases to snag and retrieve the keys. (See illustration 2.)

This particular method is especially effective with the GM Firebird, Camaro, Trans Am, Fiero, some Corvettes, the Buick Reatta, as well as many Nissan, Mazda and other manufacturer models that have frameless windows.

Technique three is good for vehicles sporting standard vertical button locks using a thin strip of plastic and dental tape. It is easy enough to fashion your own tool from a plastic milk carton. Simply cut a long 1" wide piece from the carton and place two holes in the end. Run a loop of dental tape through the holes and your done. The loop of dental tape is used to direct the tool as it's inserted into the vehicle, as well as loop and pull on the button.

Another variation of this tool is to use a piece of narrow plastic banding or strapping typically found on bundled newspapers. Several manufacturers also produce this type of tool that offer special bands for grabbing the hard to grasp vertical buttons without the mushrooming head.

This type of tool is good on virtually all vertical lock button vehicles (especially buttons with mushroom shaped heads) including Volvo and Mercedes.

To use these tools, simply slip them between the door frame and window or window frame near the button area. Generally there is no need to spread the frame, but

lubricating the weather-strip can make access easier.

Once the tool is in the vehicle, maneuver it and loop the lock button with the dental tap, band or device meant to grab the button. Tighten and pull up on the button. (See illustration 3.)

The fourth and final method is the Under-The-Window tool. These tools are designed to go down into the door cavity and then come up under the window and into the passenger compartment of the car. Once inside the tool is used to unlock the lock

button, hit the electrical unlock button or pull on the latch release handle.

These tools have been very effective on GM vehicles with the modular linkage and late model Toyotas with the flat vertical lock buttons. (See illustrations 4 and 5.)

Special Cars

There are two vehicles that need special attention: The Lexus and the BMW. Both of these makes employ specialty locking systems that present opening difficulties if not known and understood.



SRI and Steve Young are working together to bring you the best in locksmith tools and supplies.

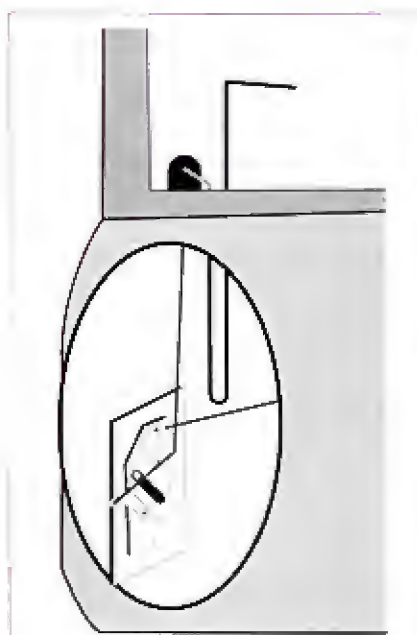
[Click here for more information](#)

In the mid 1980's BMW introduced a "deadlock" locking system to many of their vehicles. This system continues today. When activated, the locking mechanism on all the doors become deadlocked, rendering entry by force tools almost (notice I use the term "almost") impossible.

To activate the system, and to identify whether it has been activated, the driver upon exiting the vehicle must use the key to lock the car from the driver's side. Under normal locking conditions, the key is turned and removed in the 12 - 6 o'clock position. At this point, the car is locked but the deadlocking system has not been activated. To activate the system, the key is turned until it reaches the 3 - 9 o'clock position and then removed.

This, of course, makes identifying whether the vehicle is deadlocked or not easy. If the car is locked and the driver's door lock is at 12 - 6 o'clock then it is not deadlocked. If the car is locked and the driver's door lock is at 3 - 9 o'clock, the door is deadlocked.

To open the door that is not deadlocked, pick the lock, use a door



5. This Under-The-Window tool is used to unlock the vertical button on many import vehicles.

tool to activate the lock linkage, or use the plastic loop to grab the lock button. To open a deadlocked door, pick the lock back to the regular locked position and use a tool to open the door, pick the door all the way open, or use a door tool to grab the

lock linkage behind the lock and pull up - HARD! Then lift the door handle. This last technique is also the technique used by BMW service centers.

The Lexus uses a system called "Smart Locks." Special electronics within the vehicle sense whether the vehicle is locked or unlocked. To activate the system, the driver locks the doors using his key or the remote alarm/door lock switch. A switch on the back of the door lock activates the system. Should the door be unlocked by means other than the key or the remote alarm/door lock switch, the car's system automatically and instantly relocks the door.

To open the Lexus, either the Under-The-Window tool or pulling the window back can be used, depending on the model. Once the tool has been placed in position near the lock button, place the other hand on the door handle. Be ready to lift quickly! Move the lock button to unlock the door, while quickly following by lifting up on the handle. Many times it is easier to do this with two people.

Good luck on car opening!



STRATTEC™

It's your reputation.

Trust the original.

[Click here for more information](#)

ELECTRONIC SECURITY

WIRES MAKE ME NERVOUS

Test Article #51

by Greg Voorhees

Electronic locks, electronic strikes, keypads, computerized access control, magnetic locks, security systems, fire alarm systems, monitoring services, CCTV systems, intercoms, etc. Each one of the above systems have one thing in common. They all use wire.

Before 1300 AD, wire was made by pounding metal into a flat plate and cutting it into strips. The strips were joined and hammered round. Around 1300, the process of drawing wire began, allowing for much higher degrees of quantity as well as quality. Today, wire comes in all sizes and compositions and includes different coverings or jackets depending on its intended use.

Today, wire is both the nervous system and bloodline for electronic equipment; serving as the means for transferring both power and information from the power source or input device, to the control panel, to the output device. Using the correct wire and running it correctly is essential to the operation of equipment and the safety of the installer and customer. (See *photograph 1*.)

Let's take the installation of three electric strikes at a vending service complex for an example. One strike

controls the gate to the parking area. The second controls the first floor dispatch and warehouse area door. The third controls the door to the second floor corporate offices. Despite the fact that all three strikes were identical each has an installation environment that demands a specific type of wire.



1. Today's wire and cable is designed for very specific purposes.

In order to power the strike for the parking gate, wire is going to have to be run in a trench up to the gate. The correct wire and the correct burying depth and procedure are necessary if this installation is to be safe and sound from defects and future problems.

The strike wiring for the dispatch/warehouse door runs above a 2'x4' panel drop tile suspended

ceiling. Normally standard twisted pair cable could be used, however, the ceiling is being used as the return air plenum for the heating and air-conditioning system. This, of course, requires wire that is acceptable for plenum ceiling use.

The last strike encounters another environment. The walls are poured concrete not allowing for the wires to be run through the walls. The owners, however, don't want any exposed or surface mounted conduit on their walls. To accommodate the customer, the wires are going to be run through an existing conduit that runs 120V conductors through them. Again, in order to run the strike wire, the proper wire must be used.

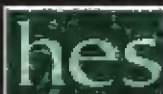
As just described, three identical strikes installation have three completely different wire requirements. Confusing? Yes, if you don't know where to find the answers.

There are several factors that determine the correct wire or cable use. The first concern is whether the wire is being used to transmit or conduct power or signals. In some cases the same wire or cable type can be used for either power or signal transmission. However, this is not always the case and care should be taken.



ASP Covers the World of Auto Locks

[Click here for more information](#)



For example, the standard wire we use for plugging in the toaster or television is often referred to as zip cord or cable. It comes in varying sizes and generally has two conductors. This type of wire is used extensively for conducting power in small, household appliances. (See photograph 2.)



2. The zip cord we are familiar with is a good power conducting wire.

The wiring for alarms, however is different. Much of the wire used for door contacts is twisted pair. This is simply two separate jacketed conductors that are loosely twisted around each other. The twisting motion of the wire helps reduce the chance of swingers (a momentary fluctuation or disturbance in the loop that often causes false alarms) caused by radio frequency interference (RFI). RFI can be produced by various sources including computers, radios, fluorescent lighting, lightning, electrostatic discharge (commonly experienced as the shock you receive after walking on carpet), etc.

In the case of alarms, then, the wire is chosen on its ability to stop incorrect signals from being detected by the system. Being similar to zip cord, however, this same wire can be used for supplying power to the control panel and/or electric strikes in an access control system. This wire can serve as both a signal wire (though somewhat limited) and a power wire. (See photograph 3.)

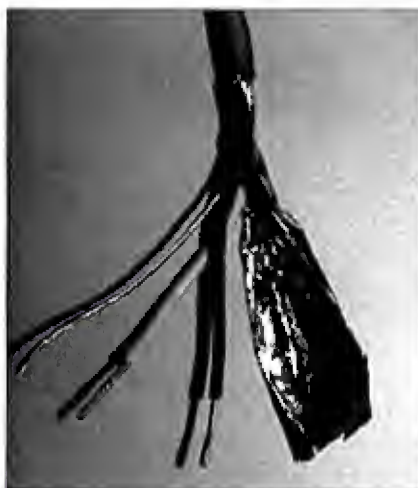
Many access control systems use shielded cable for runs between readers and the control panel. This type of cable has several conductors wrapped by an outer foil layer and a ground wire that runs the length of the cable. This type of wire is used where signal transmission is critical and the need for protection against RFI is high. Like the twisted pair, this



3. Twisted pair is a common wire for alarm and access control use. The twisting of the wires reduced problems caused by RFI or radio frequency interference.

wire can be used as both power wire and signal wire, although its design and price pretty much limit it to use where signal protection is needed. (See photograph 4.)

Finally, cable TV, CCTV and other antenna and signal transmission wiring use coaxial cable. This is strictly a signal wire.



4. This sample of two conductor shielded cable is common for applications that require a high degree of protection from RFI.

With significant differences existing between the need for a power wire versus the need for a signal wire, it's important that the correct type of wire be used. There is a tendency on the part of an installer, especially beginners, to use what is available. Approaching wiring this way can often cause problems ranging from minor system malfunctions to complete system failure, and possibly even damage and fire.

When concerned about power requirements, choosing the correct size or gauge wire is often the only concern. When concerned about the

transmission of data, however, choosing the correct wire is necessary. While twisted pair wire may be ideal for tying magnetic contacts to an alarm panel, using them for access control connections demanding a high degree of RFI protection can be disastrous. Such an application destroys the integrity of the system, enhances the possibility of system complications and decreases the overall security and safety of the system. (See photograph 5.)



5. Choosing the correct wire is critical in electrical security installations. On the left is a jacketed four conductor wire and the other is jacketed eight conductor wire. Like the twisted pair wire, both are common for alarm and access control work.

With both power and signal wire, two other factors need be considered when choosing the correct wire: power requirements and environmental requirements.

Power requirements include the voltage and current that the wire must conduct, and, along with considering the distance of the run, determines the correct wire size or gauge to use. Environmental concerns include the type of raceway or conduit being used, the proximity of other conductors (wiring), area lighting, computers and computer rooms, whether the unit is buried or used for exterior use, etc. All factors must be considered when deciding on the type of wire being used.

Next month we'll discuss the different power and environmental requirements for choosing wire, as well as discovering a resource for determining wire application and installation.



BEGINNER'S CORNER

Opening The 1991 Toyota Pickup

It was about 5:00 a.m. when the voice on phone said, "Can you please hurry. The keys are locked in my truck, and the motor is running."



by Eugene Gentry

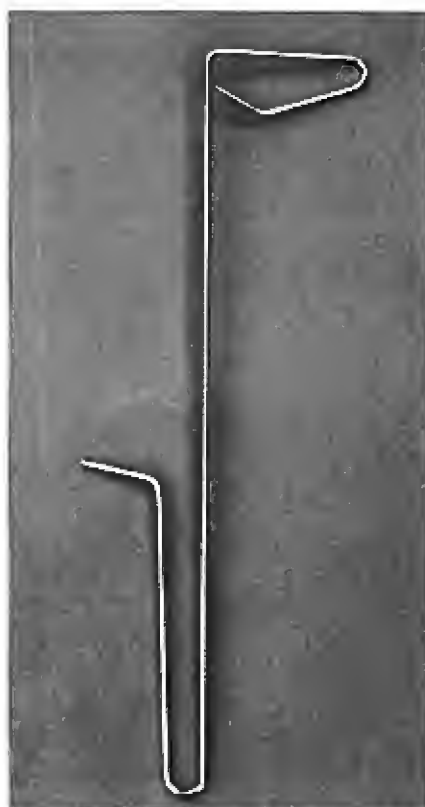
I arrived in a short time, sleepy and unshaven, to find a young man that had gone into the house after starting his truck, locking the door behind him. He was pacing nervously as he was late for work.



1. The 1991 Toyota pickup.

This was a 1991 Toyota pickup with a vertical lift knob that had a protective theft guard around the linkage rod. (See photograph 1.) This was designed to prevent theft by lifting up on the rod with an opening tool. The Toyota pickups prior to 1990 also had a vertical lift button, but the linkage had only a theft guard toward the top of the rod. You could still use an opening tool to hook on the bottom of the rod to pull up the button.

For the first few seconds I tried picking the lock but nothing was happening. In the past, I have had



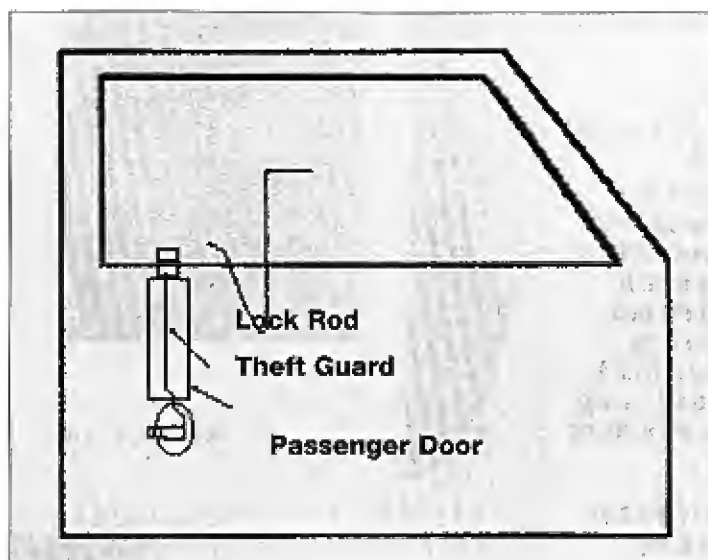
2. Slide lock's Japanese tool.

good luck in picking foreign cars, but did not spend time on this as the fellow was impatient. I had checked the book for the Slide Lock Tool set that I have and was instructed to use the Japanese Tool. (See photograph 2.) This is a tool that goes under the window then up on the inside of the window. The lock button has a slight indentation so the tip of the tool is inserted in the indentation and lifted. The button will be lifted up, unlocking the car. (See illustration 3.)

You have to be careful of any auto opening tool that goes up inside the window as it can scratch tinted windows. After being assured that the windows were not tinted, I proceeded to place the wedges and insert the tool down the outside window. The wedges were then removed and the tool was turned and pulled upward in a dragging motion. It popped up on the other side and was dragged toward the button. The tip of the tool was placed in the

button indentation and pulled upward. The button came up and the car was open.

The key blank number for the 1991 Toyota pickup is TR40, T040 or X174. The same key is used for the ignition, door and glove box.



3. The tool goes up under the window and makes contact with the lock button.



*Cover
Feature*

EASY CCTV WITH THE AMSECO AVC505

"The AVC505 is a simple yet versatile piece of equipment that is built to last and requires simple installation with even the most feeble electronic skills."

by Tom Mazzone

Closed circuit television monitoring has, in the past, been viewed as having extremely complicated equipment with even more complex installation procedures. An intense electronic background was often necessary and has become an elite area of the security field.

American Security Equipment Company has changed this with the AVC505 Audio Video Camera System. It is a simple yet versatile piece of equipment that is built to last and requires simple installation with even the most feeble electronic skills.

The equipment included in the kit is as follows: A 5" black and white monitor screen with one way audio, the camera, a swivel and a clamp mount, a terminal cover, electrical adapter, five self tapping screws, and 60' of four conductor cable. (See photographs 1 and 2.) For runs over 60', four conductor 18 AWG cable can be used up to a distance of 300'.

As with any type of installation work, a good plan is necessary. Since this equipment is designed for indoor installation, avoid areas where there is the possibility of water getting on the unit. If water should get on the unit, wipe it dry immediately to avoid internal damage. Avoid areas where heavy traffic could increase the likelihood of shock to the camera.

Camera location is the first step. For our purpose, we installed the camera in the right hand upper corner of the



1. The AVC505 monitor.



2. The camera is about the size of a pack of cigarettes.

foyer, approximately 6' from the floor. This is done by attaching the mounting cover to the camera using the supplied self tapping screws. (See photograph 3.) Two mounts can be attached to this cover, depending on the application: a clamp mount that allows the user to move and remove the camera whenever needed (see photograph 4) or a surface mounted swivel (see photograph 5). We used the swivel mount for our application.

With the mounting cover attached, set the camera at the desired height and scribe the three holes that will hold the swivel mount and the camera to the wall. (See photograph 6.) With the swivel attached to the wall, attach the camera to the swivel. (See photograph 7.) There is a cable input jack on the camera, this should be down towards the ground.

We made a covert wiring installation by running some of the wiring behind the vertical corner molding. Removing one suspended ceiling panel, the rest of the wiring was invisible by running it down through the wall. (See photograph 8.) You can make your camera installation as visible or invisible as you like. However the fact that "Big Brother" is watching can be a very effective deterrent to theft or can maintain productivity in remote areas of warehouses or docks.

The next step is simply the location of the monitor. An attractive, egg shell white housing made of durable ABS



3. Attach the camera mounting cover.



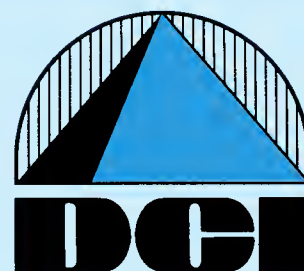
4. The clamp mount.



5. The swivel clamp used for this application.



6. Scribe the mounting screw holes at the desired height.



Don't panic!

We have Security
Exit Devices.

[Click here for more information](#)



7. The mounted camera.



8. Running the wire above the ceiling and down through the wall.

plastic is the makeup of the 5" black and white screen monitor. It has a volume control knob for the audio as well as brightness control and contrast knob.

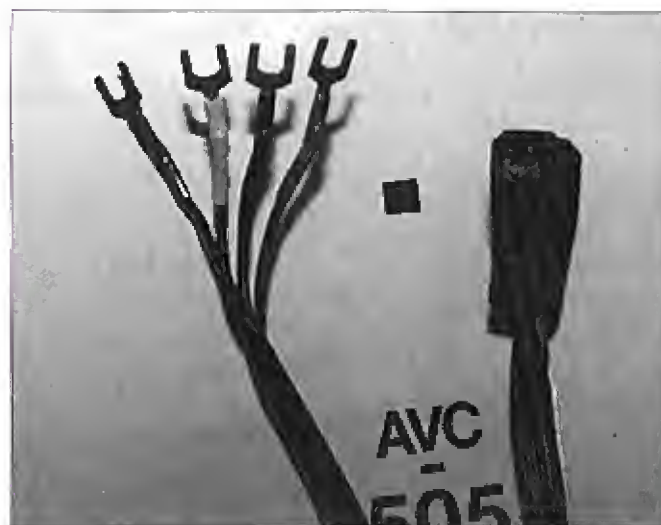
Find the most suitable location for your application and thread your four wire cable over to the monitor. Take into consideration high traffic areas before doing your wiring layout and beginning your hookup. For simplicity, this cable gets high marks as far as ease of installation.

Once over to the monitor, you will find that the wiring

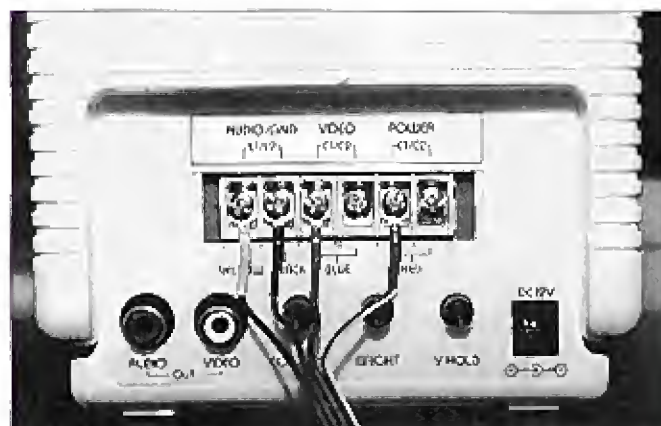
diagram is clearly marked on the back of the unit. (See photograph 9.) Talk about user friendly! Hook up the appropriate color coded wire (see photograph 10) to the back of the monitor and secure with the hold down screws on the back of the case. (See photograph 11.) The other end of the cable has a jack that plugs into the camera. A spline on the



9. The back of the monitor is clearly marked for wire connection.



10. The monitor end of the cable is color coded to match the wire connection markings on the back of the monitor. The camera end has a jack that fits into the camera, and is splined so that it fits in only one direction. This makes the connections for even the most limited electric locksmith quite simple.



11. Connecting to the back of the monitor.

Continued from page 34

jack allows it to fit only one way so there is no mistakes while plugging it in. (See photograph 12.) That's it! All the wiring is complete.

The final step is to plug in the DC 12V adapter. (See photograph 13.) The monitor will now come to life. It is just that simple. (See photograph 14.)

Picture clarity is adjusted just as you would the television set in your home. Audio control can be set to your applications comfort zone. The system will give you optimum performance with very little adjustment.

As an option, a second camera can be added to increase viewing range (approximately \$160.00). Although equipped with one camera, the monitor is set up with the provision for the second hookup. A manual switch allows the viewer to switch cameras.

Audio and video RCA style jacks on the back of the monitor allow you to hook the unit into most VCR recorders.

Basic tools were used for this operation. A number one Phillips screw driver, a straight blade screw driver, a short ladder, and a cordless drill were used in this installation. We did a really professional looking job in no time at all.



12. Plugging in the camera.

Overall weight of both the camera and monitor are scarcely four pounds, making relocation really versatile and leaving room for many viewing options.

This writer's overall opinion is that this is a user



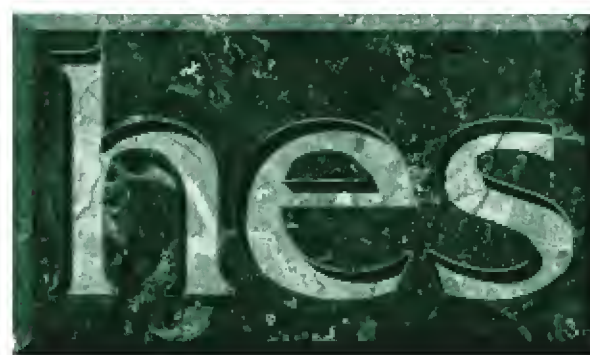
13. Plug in the power.



14. Make picture adjustments, and you're done!

friendly, high tech device that can be a real money maker for the security technician. Cost is approximately \$225.00 to the locksmith. A complete trouble shooting chart is included in the back of the service operation and installation manual. Care and maintenance tips are also provided.

For more information regarding the AVC505 contact: American Security Equipment Company (AMSECO), 228 E. Star of India Lane, Carson, CA 90746, (310) 538-4670 or (800) 421-1096.



**To be a World Leader
You Need Quality
Products, Innovative
Technology and
Strong Partners.**

[Click here for more information](#)

*Cover
Feature*

SEEIN' THROUGH DOORS

"With a good, stout and solid door between you and the outside world, you cannot tell if it is Avon, Attila The Hun or your mother-in-law calling."

by Jake Jakubowski

No one knows precisely when mankind discovered that doors were better than rocks, animal skins or fires for protecting the entrances to their dwellings from "... ghoulies and ghosties and things that go bump in the night." What is known, is that by inventing the door, our ancestors found a way to help secure their persons and possessions, keep out the cold and relieve their tensions by slamming the door when they left their huts in a huff.

At the same time, they created another problem for themselves. With a good, stout and solid door between them and the outside world, they could not tell if it was Avon, Attila The Hun or their mother-in-law that was calling. Since necessity is deemed to be the Mother of Invention, our forebearers discovered peepholes, portcullises, gatekeepers and guard towers ... all in order to view the visitor before inviting them in.

Another problem with the invention of the door became apparent for those who could not afford gatekeepers or guard towers. They could not see the visitor approaching. Which meant the visitor needed a means to announce themselves. It was probably about this time that the "Knock! Knock! ... Who's there?" thing got its start.

With friends, foes, Goths, Visigoths, tax collectors and traveling salesmen announcing their arrival by beating and banging on the door with staves, staffs, battle axes, spear shafts and boot heels our erstwhile ancestors (that were unable to afford gatekeepers and guard towers) needed a way to determine who was raising all that ruckus at the front door. Portholes and, ultimately, windows became an integral part of the door.

Shortly after Ben Franklin, Thomas Edison, Michael Faraday and others had made their electrifying discoveries, doorbells, buzzers and chimes were modernized to the point where the need to use battle axes and other blunt instruments as door knockers had been supplanted by a small button on the door frame.

With the discovery of television, and the rapid advance of video technology, it didn't take long before someone jumped on the idea of using TV cameras and receivers to monitor the front door. The earliest units were big, cumbersome, had poor resolution and were so expensive that only the government and big business could afford to utilize them. Like everything else electronic, TV surveillance (known as CCTV: Closed Circuit Television) equipment began to shrink in size and price.

Today, video-communicators are so compact, user friendly and economical, that their utilization in residential entry security applications is becoming more common-place everyday. Why? For the same reason our ancestors needed gatekeepers and erected guard towers ... to warn us of the possibility of barbarians at our gates.

Many of the video communicators that are available can be installed in the average home, easily replacing an existing doorbell using only two wires. Frequently the existing doorbell wires are all that are needed in a retrofit installation.

The technology of residential video entry security

systems has progressed to the point that the door station, an infrared CCD (Charged Coupled Device) camera/audio unit (see photograph 1) can see the person standing in front of it in near darkness. The unit needs less than one lux (a lux is a metric measurement of light, equivalent to .0929 foot-candle, or one lumen per square meter) of illumination to produce an image on the monitor.

In addition, Aiphone's MY-DC motorized door camera has a pan/tilt feature (approximately 76 degrees vertical and 122 degrees horizontal), which gives the camera a field of vision three to four times greater than a fixed position camera. This means if the camera is mounted with the lens center about 5' above the floor, you should be able to view a vertical area of approximately 18 square feet and have a horizontal field of view of approximately 17.5

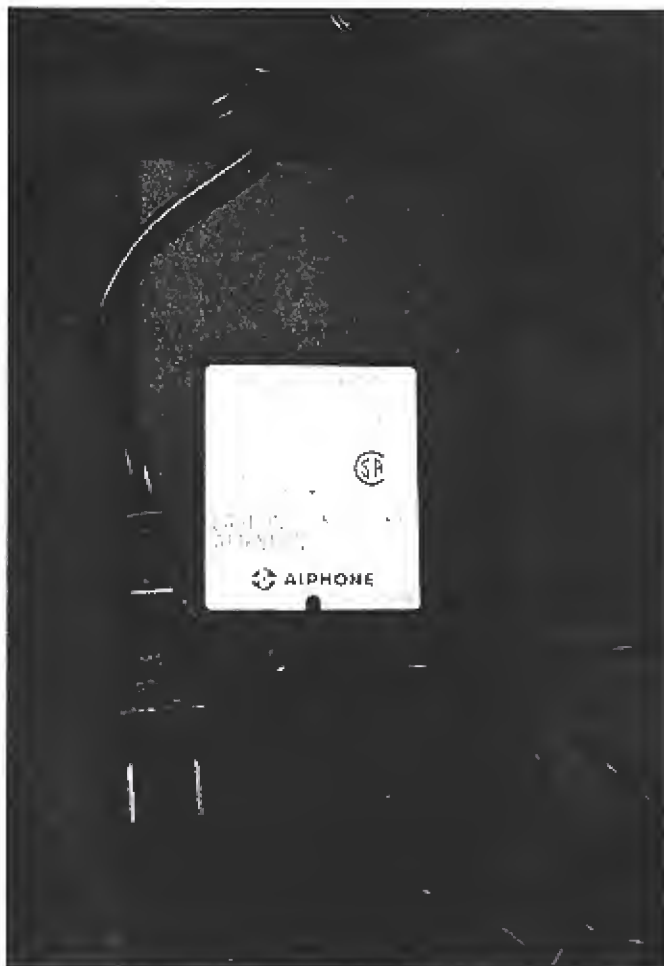


1. Aiphone's compact door unit containing CCD camera and intercom unit.

Continued from page 38



2. The MY-1CD control station includes a monitor and controls to pan/tilt the camera, activate the intercom and unlock a remote lock.



3. The plug in transformer.

square feet.

The monitoring stations for these units are about the size of, and strongly resemble, a large desk phone. These control units allow you to view and speak to the person at the door, or, if you choose, simply to see who it is before answering. (See photograph 2.) The MY-1CD can be wall mounted or used as a desk-top monitor. Options include electronic door unlocking and multiple room or door stations with certain models.

The power source for the MYS-1CD system is the PS-18YC, UL listed, plug-in transformer. (See photograph 3.) After completing the installation of the camera and monitor, you simply plug the transformer into the monitor and then into a 120VAC wall outlet. The transformer supplies the 18VDC necessary to operate the unit.

How difficult are these video/audio security entry systems to install? The answer is: "Not very!" Remember my mentioning using the existing doorbell wire to facilitate installation on a retrofit project? That's the place to start. However, the selection of a mounting site for the camera is probably as important as the proper installation of the unit itself.

Ideally, the video door station camera should be mounted at right angles to the door, on the wall of the entryway. If that is not possible, then try to avoid mounting the video

Continued on page 43



4. After disconnecting the doorbell transformer, remove the doorbell switch.

Continued from page 40

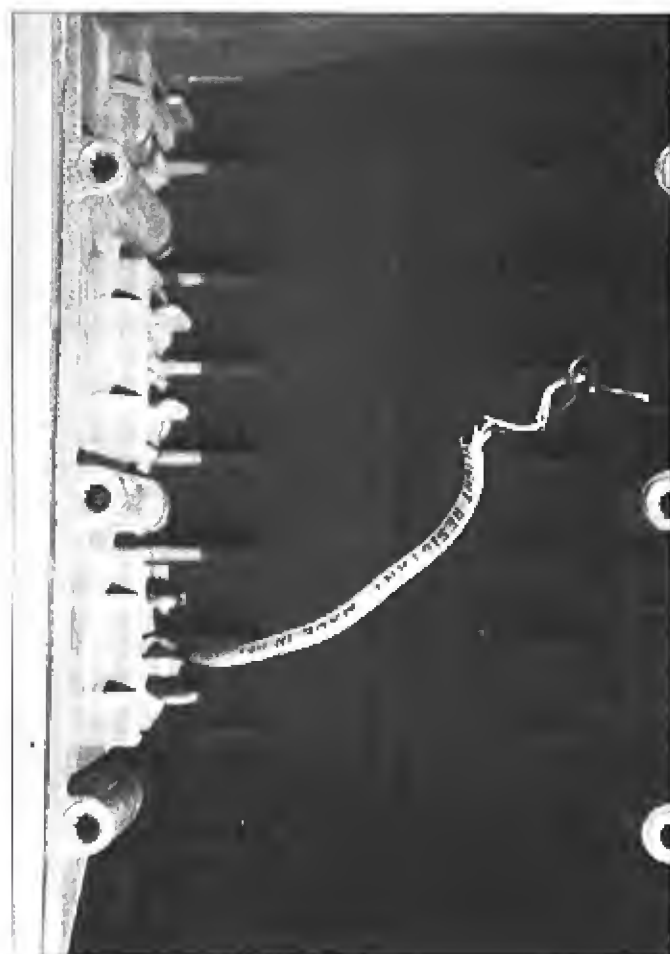
door station camera where there is a strong light source behind the person standing at the door station. Otherwise, the face will appear dark on the monitor. If this situation does occur because the building creates shadows in or around the entry area, you can use the BACKLIGHT button on the monitor to make the face brighter.

Now, back to the doorbell wire. Find the transformer that currently (no pun intended) supplies power to the existing doorbell. Disconnect the two wires. (This eliminates the power source for the door bell. However, you should check them with a VOM to make sure the power is off.) Now, twist them together. Secure them with a wire nut or, since we're dealing with very low-voltage, a barrel connector. Next, go to the front door and pull the doorbell button or switch away from the frame. (See photograph 4.) Disconnect the two wires.

Install a 3-gang electrical box vertically and install the video door station. (See photograph 5.) This is the hardest part of the installation and may require that the frame or face of the house be cut or mortised to accept the gang box. (See photograph 6.)

The next step is choosing the location of the monitoring room station. You want to locate it close enough to an AC outlet so the power supply cord can reach the outlet without lengthening the cord (which could cause problems with the picture and sound quality of the unit).

Once you have determined your monitor location, go to



5. The doorbell wire fed into the 3-gang box.



6. The mounted camera.

the existing doorbell and disconnect the two wires from the door bell. Using a single pair cable (two wires) extend the existing doorbell wire to the monitoring station's location, and connect the wire to the proper terminals.

The final step of the installation is attaching the power supply to the monitor. Simply plug the DC plug into the DC jack on the monitoring station, plug the other end into an AC outlet and you're ready to put the unit into operation. (See photograph 7.)

Simple wasn't it? It took me just a shade over two hours to install the unit I showed you in the photographs. If you have ever wired a lamp, installed an extra electric outlet in your shop or added lights to your service van ... then you would have no trouble installing Aiphone's Video Sentry Pan/Tilt Entry Security System.

At this point, you're probably ready to ask me what the point of all this is. Since I'm not an overly shy person, I'll tell you ... in one simple word: "Profit." I mean, that's what we're all in business for, right? To make money? Well, let me give you something motivational to think about.

If you had installed this unit for one of your customers and it had taken you the same length of time it took me, with full markup on the unit, you could have put about \$300 in



HPC has it all:
Key Machines,
Software, Books,
Car Openers, Pick
Sets, Tools, Door
Guards, and Key
Cabinets

[Click here for more information](#)

your pocket! That figure does not include service or installation fees. Scout's honor! Now, that's "profit" with a capital "P."

I realize that the exact number of shekels that you take home from a job like this is going to depend on the market you're in, your landed costs for the unit, and how sophisticated a system your prospective customer wants. Regardless, Video Entry Security Systems for residential applications are in greater demand than ever before.

Even if your customer wants something less advanced than the MYS-ICD, Aiphone markets a two-wire, two-station, audio-only intercom unit (The Chime Com, Model #C-123LP) that allows you to easily clear a hundred bucks for an hour or less of installation time!



7. I can see you, but you can't see me!

Selling and installing audio, or video/audio entry security is a natural for today's locksmith. After all, we are already being consulted by the customer as a security expert. The customer is literally asking us to tell them what they need to protect their homes, businesses and automobiles. Entry security systems are an easy add-on sale to the new locks or re-key we're already doing for them. All you need to do is let the customer know that you can carry their security one step further by showing them how to see and talk through doors.

For more information about these and other Aiphone intercom systems, contact: Aiphone, 1700 130th Ave. N.E., P.O. Box 90075, Bellevue, WA 98009. Or call 800-281-7553.

Author's note: There are some jurisdictions that require special licensing for installers of intercom systems. Always check with the appropriate authority in your locality before undertaking a new endeavor.





THE LOCKSMITH AND CCTV

*"Locksmithing goes hand in hand with the alarm business," Greg says
"Locksmithing coupled with an alarm business is a ticket for adding CCTV."*

by Don Probasco

Greg Voorhees of Hartford, Alabama, had been an electrical contractor and master electrician for thirty years. Then, seven years ago, he was run over by a car and crippled. He had never been one to sit around and do nothing, but as a result of his disabilities he knew he had to find work that did not require heavy labor.

Having been involved in alarm installation for many years as part of his electrical business, he decided locksmithing might be an answer to his needs. Studying hard, he soon became good enough at it that, in his words, it has become "a very lucrative business."

"Locksmithing goes hand in hand with the alarm business," Greg says. "There is a very definite need in the alarm business for people who know security. Many alarm people think that a high security lock just means a deadbolt. They think that any lock that does not have a key in the knob is high security. Full knowledge of locksmithing coupled with an alarm business is a made-to-order ticket for adding CCTV. Closed circuit TV enhances locksmithing."

Into his monthly statements, Greg tucks advertising flyers that outline the benefits of CCTV and encourage his customers to call for a free explanation. He offers to install a system for one month. If the customer does not choose to keep it, Greg will remove the system at no charge for the month of service. (How can you beat a deal like that!)

In addition to CCTV, Greg sells concave and convex mirrors used by stores to help prevent shoplifting. Again, advertising flyers are enclosed in his customers' statements. Greg believes he must use every opportunity to sell his products and services to customers, new and old, if he is to stay in business.

Greg's locksmith business, Lock and Key Service, is located in Hartford, Alabama, near the state line between Alabama and the panhandle of Florida. He and his partners also own two alarm companies: Safe and Secure of Alabama and Safe and Secure of Florida.

Safe and Secure of Florida serves an area from Palm Beach to Orlando Florida. Safe and Secure of Alabama



**LOCKMASTERS
SECURITY
MANAGEMENT**
TM



**Providing quality
tools, parts, and
service for
the security
professional.**

serves the southern part of Alabama and the panhandle of Florida. Both Safe and Secure businesses have been in operation for less than two years, but have already established more than fifty customers for fulltime alarm monitoring.

When asked, Greg said he would recommend CCTV sales and installation to any locksmith, saying no specialized knowledge or training is required.

"People who are now selling CCTV don't know any more than locksmiths. A locksmith knows how to turn on a television set and program a VCR. Most have camcorders and know how to hook them up. Basically, CCTV is more simple than that. You have one coaxial cable and a power supply going into the camera from the power transformer. Some cameras have the power supply built in. Then you run your coax back from the camera to the monitor and recorder." Sounds simple enough.

When Greg has an appointment with a prospective CCTV customer, he takes his display equipment with him. This includes a monitor, a display board, and a camera on a tripod. First, he sets up the tripod and camera in a corner of the store facing the door or the cash register. Then he usually runs the coaxial cable to an office or back room, so that the store owner can see what is happening out front. However, sometimes he sets up the monitor near the cash register, so that store customers can see themselves on it, as well. He points out that a person who knows he is being seen and possibly recorded is less likely to steal or rob at that location.

An interesting feature relates to the tape. An eight hour continuous video tape can be used in the recorder. At the end of each eight-hour business shift, the tape can either be removed and replaced with a new tape, or it will record over the existing tape, continuing for another eight hours. However, an alarm system can be programmed in to stop the recording after a specified length of time following triggering of the alarm. This allows taped pictures of an intruder to be saved, eliminating the possibility of the sequence being taped over.

A video printer may also be incorporated into the system. By "freezing" any frame on the video tape, the owner can then print a copy of that picture in high resolution black and white in ten seconds. The cost is about eight cents per copy.

Many times experienced burglars break in, steal what they want, and are gone before the security service or police can respond to the alarm call. By having the capability to photograph intruders in the act and print a copy of their picture, the victim can furnish information that may help police apprehend the burglars.

Another use for CCTV involves people who wish to screen visitors for admission without having to go to the door or look out a window or door viewer. This can include people who are confined to beds or wheel chairs. After identifying the visitor by way of CCTV and a speaker phone, the resident can press a button which releases an electric strike on the door, allowing entrance. If the resident does not know the visitor, in the case of a visiting health care person, for example, identification can be held up to the camera. This eliminates forced entry by an intruder, and in

Continued on page 110

Major
MANUFACTURING, INC.

**Every Installation
Is a Self-Portrait
Of the Person Who Did It.
Autograph Your Work with Excellence.**

[Click here for more information](#)

LOCKSMITH TOOLS

MINI SECTION

IGNITION PICK & DECODING SYSTEM FOR G.M.

A-1 Security Mfg.
Richmond, VA
804-747-0095
fax 804-747-0534

Stock # PS1

PURPOSE OF TOOL
Kit for Servicing GM Ignitions. Allows ignitions to be picked and decoded in 10 to 15 minutes.



INSTRUCTIONS FOR USE

A-1's Ignition Pick and Decoding System for GM is very straightforward and user friendly. Since the rabbit ears are removed, the process is easy to master and the technique for replacing them is virtually foolproof. The rabbit ears will be more secure than they were originally.

Gently pry off rabbit ears by inserting a screwdriver behind them and twisting. Insert one of the tension probes between the spring washer and the lock body. The probe will rest on top of the side bar so that the lock can be picked with the diamond pick (included).

Once the lock is picked, insert A-1's two part decoding tool into the keyway. Part 'A' has a feeler tip which will seat on top of each wafer. The top part of 'A' will line up with the graduation marks on Part 'B' so that the depths can be readily discerned. There is no real secret or trick to the process. Just be sure to keep the two parts parallel.

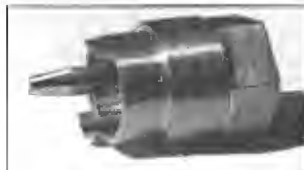
Once the lock is decoded, and a working key is cut, replace the rabbit ears. A supply of industrial Speedbond[®] by Loctite is included with the product and replacements are available from A-1 distributors. This anaerobic adhesive holds tighter than so called "chemical weld." It applies in about a minute and cures in about 5 minutes. The rabbit ears will be quite secure.

For FREE Information
Circle 449 on Rapid Reply

FORD QUICK-ON

Aable Locksmiths
Ozone Park, NY
718-847-1377

PURPOSE OF TOOL
To turn ignition to the "ON" position for fast removal (less than 5 minutes) by shearing the side-bar. On all Ford 10 cut side-bar ignition locks.



INSTRUCTIONS FOR USE

Pry wing nut off, insert tool into keyway until the cutting tabs come into contact with face of the cylinder. Hold in place, hit rear of tool until the cutting tabs cut into face of cylinder and tool is fully seated. Use socket to turn to the "ON" position, this will shear the side-bar. Push holding pin in, slide lock out. Insert new lock, turn to "OFF" position to lock cylinder in place.

If you want to start car, just remove tool and use a screwdriver to turn past

the "ON" position to start car.

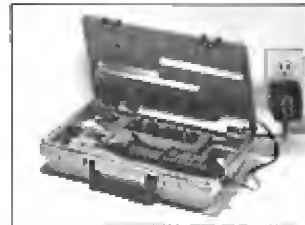
For FREE Information
Circle 449 on Rapid Reply

TWO-SPEED FREEWHEELER CORDLESS MOTO-TOOL KIT

Dremel
Racine, WI
800-437-3635
fax 414-554-7654

Stock # 8508

PURPOSE OF TOOL
The 8508 Freewheeler cut, grinds and polishes many types of metals and can be used to open and repair safes, locks and many other devices.



INSTRUCTIONS FOR USE

Simply lower the spinning accessory lightly to the work and allow it to touch the point at which you want cutting (or sanding or etching, etc.) to begin. Guide the tool over the work using very little pressure. It is best to make a series of passes with the tool rather than attempt to do all the work in one pass. Therefore, guide the tool back and forth over the work, cutting a little material on each pass until you reach the desired depth. For most work, the gentle touch is best. With it, you have the best control, are less likely to make errors and will get the most efficient work out of the accessory.

For best results, grip Freewheeler like a pencil between your thumb and forefinger or use the "handgrip" method with your hand wrapped around the housing and the chuck extending beyond your thumb and forefinger.

For FREE Information
Circle 448 on Rapid Reply

6 FOOT SUPER JIMMY

Entry Systems
Stamford, CT
203-327-0771

Stock # CO-8

PURPOSE OF TOOL
To unlock any car without a frame around the front windows (2 door coupes), such as: Mercedes, Lexus, Fiat, Camaro, Firebird, Corvette and many more.



INSTRUCTIONS FOR USE

Simply insert a window-wedge between the window and the weather-stripping to create a space large enough to insert the Super Jimmy. Use it to reach across the car to the opposite door and operate either the manual or electric "unlock" button, or use it to pull the door handle. The Super Jimmy splits in half for easy storage in the service vehicle.

For FREE Information
Circle 447 on Rapid Reply

LOCKSMITH TOOLS

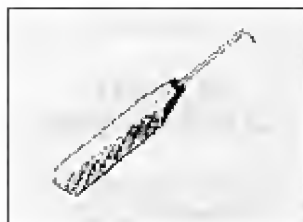
MULTI-PURPOSE TOOL

ESP Lock Products, Inc.
Leominster, MA
508-537-6121
fax 508-537-1699

Stock # CJ-34 Multi-Tool

PURPOSE OF TOOL

The CJ-34 is particularly useful with the GMRT-88 Steering Column Compression Tool and GMRR-88 Retaining Ring Tool.



INSTRUCTIONS FOR USE

Here's a truly unique tool with hundreds of different uses. The CJ-34 is just what the doctor ordered for pulling small springs, especially on mortise locks or knob tension springs on Schlage K knobs or on any lock where there's no room to use your fingers or pliers. What's more, it's great to take tru-arc rings off of cylinders and it's a tremendous aid in taking the caps off key-in-knob cylinders and rim cylinders such as those made by Lori, Arrow, AWL, Dexter, Sargent and Schlage, to mention a few. Other uses include depressing the pin to remove Corbin Russwin knobs and taking the wedge out of Schlage A80 cylinder locks.

Those are most of the uses, but as you work with the Multi-Tool, you'll discover uses we never even thought about! Developed by a professional locksmith, it's the handiest tool to come down the road in years!

For **FREE** Information
Circle 446 on Rapid Reply

1994 LOCKOUT SET

High Tech Tools
Miami, FL
800-323-8324
fax 305-541-0074

Stock # Model 2200

PURPOSE OF TOOL

The 1994 Model 2200 Lockout Set is designed to unlock all automobiles up to and including the new 1994s. Set comes with 32 tools, two field manuals (a 700 page and a 1500 page, two volume encyclopedia). Also includes a super wedge system and a steering wheel puller. Also included is an instructional video covering the 1994 lockouts.



INSTRUCTIONS FOR USE

To unlock an automobile you first look up the vehicle. Each vehicle is covered individually. For each one you will find unlocking instructions, diagrams of the opening, and step by step photo instructions. The encyclopedia also shows information on space and depth, lock part numbers, rotations, key blank numbers, labor time guide, and more. To make things easier there is an instructional video covering lockouts.

Also, Volume Two of the encyclopedia covers steering column service, air bag service, V.A.T.S. service (M.A.T.S. also covered with video included at no charge). Try out key cutting and much more.

For **FREE** Information
Circle 445 on Rapid Reply

TUBULAR LOCK KILLER™

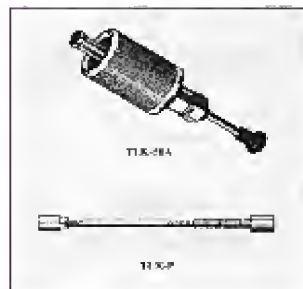
HPC, Inc.
Schiller Park, IL
708-671-6280
fax 708-671-6343

Stock #'s

TLK-50A (Tubular Lock Puller)
TLK-P (Tubular Lock Puller Attachment)

PURPOSE OF TOOL

The Tubular Lock Killer™ is a force extraction tool used for the removal of tubular lock cylinders.



INSTRUCTIONS FOR USE

HPC's Tubular Lock Killer™ (TLK-50A) can be used for the removal of open, front insertion flush mounted tubular locks including tubular padlocks, bike locks and vending machine locks. To pull a cam lock, insert collet fingers into the front of the cylinder. Once the tool is seated, push the knob so that the inner shaft is pushed forward, pushing the small cup into the collet fingers and spreading them. This locks the collet into the lock. Then place the outer housing against the face of the lock and turn the extraction nut using an open end wrench. As the nut turns, the cylinder retaining pin shears, allowing you to extract the cylinder from the face of the lock.

For rear loaded locks, replace the inner shaft assembly, cup and knob with the TLK-P. The change is simple, fast and requires no extra tools. Once in place, turn the smaller hex end of the TLK-P wrench until the lock cylinder is forced out the back of the lock

housing. By adding the TLK-P attachment, the Tubular Lock Killer™ will both pull and push tubular locks.

For **FREE** Information
Circle 444 on Rapid Reply

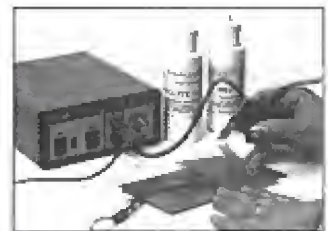
IMG ELECTROMARK-SS111

Jensen Tools, Inc.
Phoenix, AZ
800-426-1194
fax 800-366-9662

Stock # 913B111

PURPOSE OF TOOL

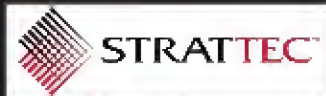
This is a permanent electrochemical marking system. It is used to etch identification numbers/codes permanently on any flat metal surface.



INSTRUCTIONS FOR USE

The IMG Electromark SS111 available from Jensen Tools, Inc. uses a low voltage, low amperage electrical current to etch identification marks using a stencil applied with electrolyte. It's a safe, simple, fast and economical way to mark metal products for inventory control and security reasons. Current from the 6-1/2" X 5-1/2" X 2-1/2" power source etches the design from the stencil to surface in one to three seconds. Stencils can be made on any typewriter. Custom Stencils are available at additional price on special request. 115 VAC, 50/60Hz.

For **FREE** Information
Circle 443 on Rapid Reply



LOCKSMITH TOOLS

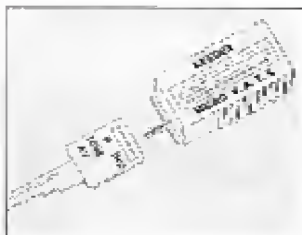
MINI SECTION

MICRO V.A.T.S. INTERROGATOR

Keedex Mfg.
Garden Grove, CA
714-636-5657
fax 714-636-5680

Stock # K-VATS

PURPOSE OF TOOL
The Micro V.A.T.S. Interrogator is used to identify the VATS key value, when the key has been lost to a VATS equipped vehicle.



INSTRUCTIONS FOR USE

Cut a functional mechanical (non-VATS) key for the ignition. Insert the key into the ignition. Slide the Micro V.A.T.S. unit over the head of the key.

Use the selector switch on the Micro V.A.T.S. to determine which of the fifteen values, is the correct one that will start the engine. If manual shift, you must depress the clutch with each attempt to start the engine. It is necessary to wait the reset period (3-4 minutes) between attempts. Make sure that the switch is in an actual position - not between numbers.

The numbers on the Micro V.A.T.S. correspond to the fifteen values of the VATS key blanks (number 16 is an inactive position).

The enclosed labels allow you to use your volt/ohm meter as a key identifier.

For **FREE** Information
Circle 442 on Rapid Reply

TWO-PIECE PUNCH™

Lockmasters, Inc.
Nicholasville, KY
800-654-0637
fax 606-885-7093

Stock # LKM2035

PURPOSE OF TOOL
A powerful punch by Lockmasters® to help penetrate hardplates. Threaded, replaceable 2-1/2" tips allow this punch to be reused, without regrounding the point.



INSTRUCTIONS FOR USE

Drilling and punching is the most effective way to attack matrix hardplates. The hardplate material is naturally brittle, and this punch lets you literally beat your way through the protective barrier material. Used in combination with a deadblow hammer and a carbide tipped drill bit, this punch delivers the force needed to get through most matrix hardplates. It shatters material your bits cannot drill.

The 2-1/2" long threaded tips are hardened to withstand punishment. When they do become dull, simply thread in a new tip. Ten tips are supplied with the heavy duty hex-shaped handle. Replacement tips are available through Lockmasters® in packs of ten.

Originally designed for GSA containers, this powerful punch will help you in countless other situations, as well. Unthreading shearhead bolts on ignition housings are just one example. This is an inexpensive tool you will rely on for many years to come.

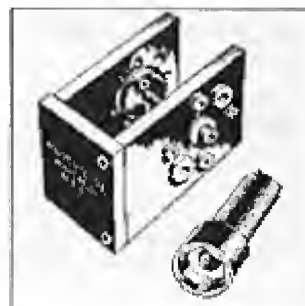
For **FREE** Information
Circle 441 on Rapid Reply

HARDWARE INSTALLATION TOOL

Major Mfg., Inc.
Atwood, CA
714-772-5202
fax 714-772-2302

Stock #'s
HIT-1 Drill Guide
HIT-2 Installation Wrench

PURPOSE OF TOOL
To quickly and accurately retrofit doors to accept ADA mandated Grade 1 cylindrical lever locks by Schlage, Assa, Ferrov, Omnilock, and Sargent.



INSTRUCTIONS FOR USE

The Hit-1 is quickly and accurately mounted to the door by the use of its alignment washers and all bolt using the existing crossbore. All holes are then properly located with hardened drill guides for fast easy drill. The high back plate allows drilling through the door without damage to the old side. Perfect Retrofits can be accomplished in a matter of minutes. Major Mfg. now makes six models covering most lock manufacturers with more models being developed.

The Hit-2 installation wrench is a companion tool to the Hit-1 drill guide. It is used to tighten the mounting nut found on the inside spindle, one side tightens nuts on Schlage Rhodes locks, the other side is for Arrow, Assa, Omnilock, and Sargent Grade 1. The Hit-2 allows a better grip than the throw away wrenches provided by the manufacturer.

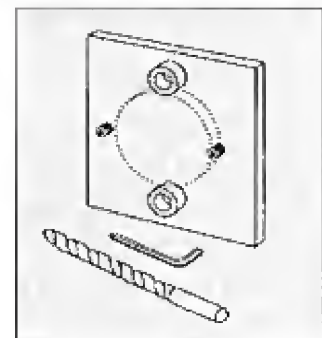
For **FREE** Information
Circle 440 on Rapid Reply

J190 LOCK INSTALLATION TOOL

Marks USA
Amityville, NY
800-526-0233
fax 516-225-6136

Stock # J190

PURPOSE OF TOOL
The J190 provides exact thru-hole locations for The Survivor 190 Series cylindrical lockset in hollow metal doors and wood windows.



INSTRUCTIONS FOR USE

Hollow Metal Door Installation: Allen Screws should protrude on the disc side. Place the J190 over the cut-out so that the 2-1/8" disc fits into the cut out. The J190 now provides exact thru-hole locations for The Survivor, 190 Series cylindrical lockset. Drill the 3/8" holes with the drill bit supplied.

Wood Door Installation: Allen screws should be retracted from the disc side. Place the J190 over the 2-1/8" bore so that the disc fits into the bore. Align with adjustable square so that drill bushings are on the vertical line. The J190 now provides exact thru-hole locations for The Survivor 190 Series cylindrical lockset. Drill the 3/8" holes with the drill bit supplied.

For **FREE** Information
Circle 439 on Rapid Reply



MINI SECTION

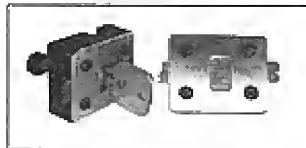
LOCKSMITH TOOLS

KEYCHECK

Pro-Lok
Orange, CA
714-633-0681
fax 714-633-0470

Stock # LT300

PURPOSE OF TOOL
Verify keyblanks.



INSTRUCTIONS FOR USE

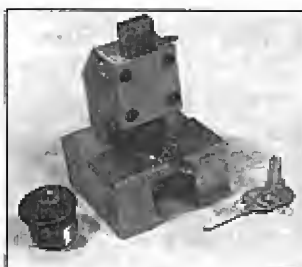
Loosen the two screw knobs to release the "fingers." Slide the customers key into the Keycheck. Push the fingers in around the keyway and tighten the screw knobs. Remove the customers key to reveal the "keyway" you have created. Test the keyblank in the keyway. If it fits you have the correct blank to use for duplication.

For **FREE** Information
Circle 438 on Rapid Reply

ACCU-MARK™

Security Corners
Mansfield, TX
800-683-0696
fax 817-473-8088

PURPOSE OF TOOL
Permanently imprints your company name and phone number into keyblanks and mortise cylinders.



INSTRUCTIONS FOR USE

With the keyblank plate in place use the aligning pin to align the keyblank for stamping. With a hammer blow you will imprint your customer made message into every keyblank you sell. Remove the plate to expose the cylinder receiver, allowing you to insert your mortise cylinders into the Accu-Mark™ unit. The alignment bearing positions each cylinder properly, for perfect alignment of your message. Again with a hammer blow you imprint your name and number into the face of the cylinder just above the keyway. This allows your customer to see your name and phone number every time they open or close their business.

For **FREE** Information
Circle 437 on Rapid Reply

Z-TOOL®

Slide Lock Tool Co.,
Inc.
Louisville, TN
800-336-8812
fax 615 577-5936

Stock # Z-Tool®

PURPOSE OF TOOL
The patented Z-Tool® is unique in that it greatly reduces the numbers of tools lockout technicians must purchase, carry and learn.



INSTRUCTIONS FOR USE

The Z-Tool® comes with a 140 page instruction manual detailing its many uses in two color, four step format. Z-Tool alone opens over 700 models.

Two of the many opening methods found in this tools instruction

manual are called Basic Vertical and Basic Horizontal. These two methods can be mastered within 20 minutes of practice and represent 60 percent of all lock systems.

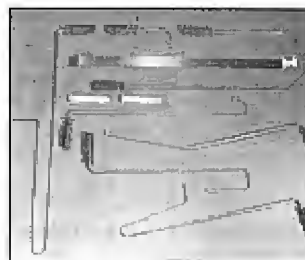
For **FREE** Information
Circle 436 on Rapid Reply

STECK LOCKOUT TOOLS KIT

Steck Mfg. Co., Inc.
Dayton, OH
800-227-8325
fax 513-222-6666

Stock # 32700

PURPOSE OF TOOL
A complete set of tools for unlocking automobile doors on both domestic and imported models.



INSTRUCTIONS FOR USE

The wedge provided in the kit is inserted between the glass and outer door panel to provide access to the door cavity. Various tool from the kit can be inserted into the door cavity to grip the lock linkage and move the linkage back and forth or up and down to unlock the door. If the lock linkage is shielded and not accessible, the Slide Lock tool reaches under the glass and into the car's interior to actuate the lock button on the interior panel of the door.

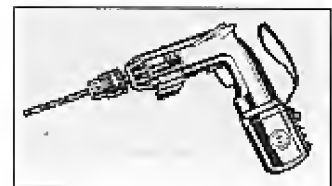
For **FREE** Information
Circle 435 on Rapid Reply

12 VOLT, CORDFREE DRILL/DRIVER/GRINDER

Tanner Bolt & Nut Corp.
Brooklyn, NY
800-456-2658
fax 718-434-3215

Stock #
AEG ABSE15(16)/AWS115

PURPOSE OF TOOL
Cordfree system uses same 12 volt battery in two tools for drilling, screwdriving, grinding, sanding and high speed cutting.



INSTRUCTIONS FOR USE

AEG offers the most comprehensive cordfree tool system for locksmiths. The ABSE15 12 volt, variable speed, reversible drill/driver features a 1/2" keyless chuck and offers great versatility with ten clutch settings across two speed ranges, 0-370 and 0-1100 RPM. The tool also features an exclusive work light to illuminate dark areas and an electric motor brake for safety. The ABSE15 features a mode selector switch for straight drilling or hammer drilling and is available with a keyed or keyless chuck. The second half of the system is the AWS115 12 volt angle grinder. This tool is outfitted to perform cutting, grinding and sanding jobs. The AWS115 allows the locksmith to quickly cut padlocks for lock-outs where power is unavailable. The AEG P12 Battery Pack "Quick Charges" within one hour. Tanner offers these tools individually or as a combination.

For **FREE** Information
Circle 434 on Rapid Reply





by
Dale Libby

INSTALLING THE VINDICATOR

"The Vindicator is an advanced electronic system that tracks the opening and closing of the outer safe or chest door."

Like it or not, the age of the electronic safe lock is here and will continue to grow. This means that we, as professional safe men and women will have to add several new tricks to our briefcase in order to service the new products.

The Vindicator is an advanced electronic system that tracks the opening and closing of the outer safe or chest door, and can control up to four inner doors. It logs the user, the times the safe door is opened, the duration of the time the door is opened and a host of other information.

The system can be accessed by modem, printer, or on-site computer to show a trail of up to 4500 events. This includes user name, date, time, etc. The big thrust of this unit is to limit employee theft, and leave an

accessible trail to see who is opening and closing the safe door.

The programming is limitless and will be discussed in another article. The thrust of this article is to work on Phase 1, which is the retrofitting of the Vindicator Lock System to safes that are not factory equipped with electronic locks.

Why bother, you ask? There will soon be a large chain of "fast" food stores that will require this exact retrofit. The first one will take about six to seven hours to accomplish. After getting used to working in cramped spaces and at impossible angles, the next ones should take about four hours to install correctly and successfully. I have installed only one, and it took about seven hours which included taking the pictures.

The retro-fit is not hard, exactly, but it is time consuming and special care must be taken when installing the electronic locks and the magnetic contacts for the door timers and door ajar conditions.

The only special tools needed might be extra telephone cable and a special LaGard (AMP) crimping tool with the correct dies for attaching telephone jacks to cables. I have the tool (\$128.00) but did not need it for this installation. The cables already come with the ends on them and I did not have to modify any of them for this installation.

First, the safe, or to be exact, the money chest. I used an old Major unit, like the ones in Taco Bell, to retrofit. This unit was somewhat beat-up, but it provided a perfect practice element to work and rehearse on. (See photograph 1.)

This chest had a S&G Group II combination lock on it. There was also a night latch type deadbolt in the upper left corner for individual shift

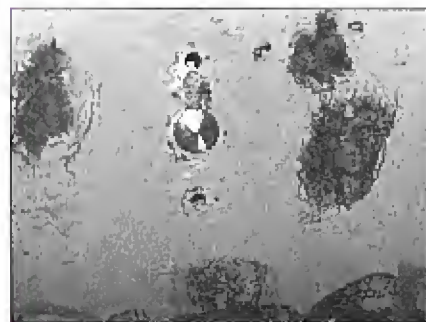
control. Both of these locks must be removed before installing the Vindicator lock system.

Once the dial was removed, the dial spindle hole was plugged with a hardened taper pin and ground flush. Later, two 8X32 screws were put into the dial ring holes and also ground flat. Later, the safe door would be sanded and painted and the dial presence would be masked with a custom escutcheon plate. (See photograph 2.)

The inside of the main safe door has a Group II combination lock installed in the vertical up (VU) position. A double duty relocker bar is attached to the back of the lock and holds down a large 3/8" pin which is spring loaded. When the relocker is activated, it shoots into an opening in the bar. (See photographs 3 and 4.)



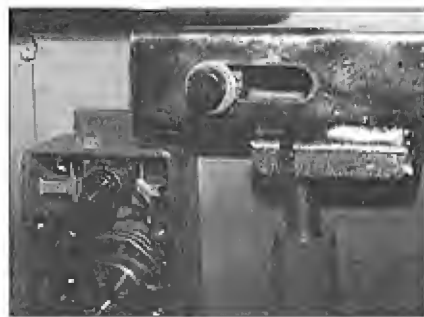
1. Major Money Chest. All previous electronics removed.



2. Dial removed and plugged with taper pin.



3. Existing lock with relock detent bar on the backplate.



4. Back cover removed, showing bolt in relock position.

This combination lock was removed from the safe completely, along with the keyed lock on the inner door of the chest. Once this was accomplished, it was necessary to determine where to place the inner and outer components of the Vindicator lock.

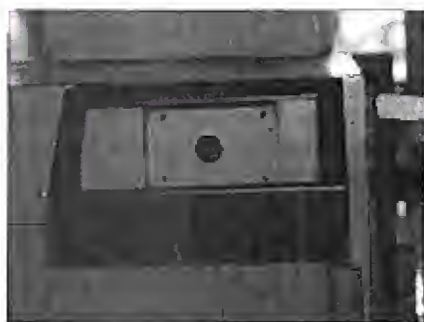
The outer housing for the keypad must not be located on the door of the chest. This is due to the large amount of vibration that the door sustains when being slammed (closed?) during the day. This safe originally had a different system of electronic control that was always failing. All the former electronics had been removed prior to my working on the unit.

What must be determined is the position of the keypad in relation to the inner control panel. The large data cable is just so long, and this is the limiting factor. I chose the upper right hand top corner of the safe. I could put the data terminal inside the inner top compartment against the right wall and the cable from the control panel would easily reach the outside corner of the chest.

Before mounting anything, it is advisable to drill all



5. Drilling a 3/4" hole for the data cable connector.



6. Installation of the control pad box over 3/4" hole



7. Location of Data Terminal, inside inner door at far right of compartment.



8. Vindicator panel and back up 6 volt battery ready to be installed

the required holes for the data cable, the safe lock control cables, and the power supply. I had to enlarge the existing hole in the upper right corner of the chest to 3/4" in order to accommodate the data cable from the Vindicator control keypad. (See photograph 5.)

While control panel box looks too large to let the safe door open, what you are seeing is the shadow of the box caused by the flash of the camera. (See photograph 6.) This mounting box can be mounted in a variety of ways on the top, front, or side of the chest.

The inner data terminal is mounted up and inside of the inner door. (See photograph 7.) It was mounted so that all connections could be easily made and seen with a flashlight. There were also two 1/2" holes drilled in the compartment, one was for the power supply cables and the other was for the main door safe swingbolt electronic solenoid lock (La-Gard 2200 series).

Since the inner door compartment lock was located in the same area as the control panel, no additional hole was drilled for its armored cable.

Now, the Vindicator control panel and the back-up

medeco
HIGH SECURITY LOCKS

**Integrity.
Ingenuity....
security
solutions.**

[Click here for more information](#)



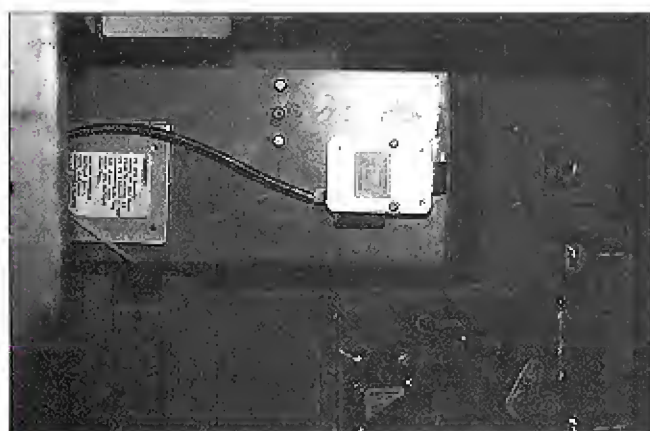
9. LaGard 2200 series swingbolt lock is installed with relocker bar

battery (6 volt) can be attached to the safe and all connections made to the clearly shown ports on the control panel. Next, comes the mounting of the two electronic locks. (See photograph 8.)



10. Inner compartment door.

The outer door lock was mounted using slightly longer bolts than come with the lock. This was due to the thickness of the hardplate and the mounting plate beneath the lock. The relock detent bar was attached to the back cover of the 2200 series combination lock.



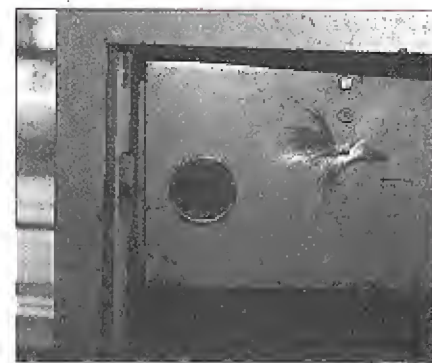
11. Spring bolt night latch type lock on inner door.

The armored cable was plugged into the cable port on the lock and snakes through a hole to the control panel in the upper/inner compartment. A cable connector was then installed to keep the cable from being pulled through the 1/2" hole. (See photograph 9.)

The inner chest door was prepped to receive the LaGard Night Latch type spring bolt lock. (See photographs 10 and 11.) I had never seen this type of lock before. It was easy to install. There is a square spindle that connects the lock to the outer turn knob. When a signal is sent to the lock, it allows the outer knob to be turned to open the door. When the door is slammed shut, it locks automatically. If the signal is not sent to the night latch lock, the knob cannot be turned. (See photograph 12.)

The last item to be installed are the magnetic contacts on the safe doors. These determine when the doors are closed, and when open, record the time that the doors were opened. The same holes for the armored cables can be used to run the bell wire for the door magnets.

An important fact about the installation is that all panels, terminals, and components must be grounded. In the future I will use double faced tape to connect the data panel and the keypad holder to the safe for positioning. I will then carefully ground each unit by running special ground wires or mounting one screw through the panels to the safe. The grounding of all components is important because of static electricity. When grounded, the



12. Knob used to activate spring bolt when signal is sent to the spring bolt lock. There are hidden mounting screws under dial insert.

static is rendered harmless by the body of the safe and the amount of steel of the chest used to dissipate all static charges.

The total installation time must include running and installing the armored cables in such a way that they will not get pinched when the outer or inner doors are closed. Backplates must be replaced, and the unit checked several times before really locking the doors. (See photograph 13.)



13. Mounted locks showing cables.

After plugging in the unit, the system is checked for proper working sequences. After the power up, the keypad displays the name "Vindicator" and the date. Just put the special button "Key" into its proper slot and read the menu. Check that both the inner and outer door locks work before closing them.

I will cover enrolling keys and functions in another article. Till then, retrofit and Prosper!



LIGHTER SIDE

The Doctor Is In

Before retiring to south Texas, Ted Brook, Ph.D., had been a university professor in the field of entomology (the study of insects). Coming to work for us in locksmithing



by
Sara Probasco

seemed quite a change, until we learned he had pursued hobbies all his life that involved "smithing" and construction. In his spare time, Ted had pursued gunsmithing and silversmithing, and he and Rose had personally built or remodeled more than one house they had occupied.

Ted enjoys making things work. He also enjoys creating beautiful and useful objects with his hands. Those attributes contributed to making him a natural for locksmithing, and he took to it like the proverbial duck to water. Soon after coming to work for us, he was hand-making decorative keys for cedar chests when we found ourselves without the proper blank, or building "customized" wall safes to accommodate unusual spaces. More recently, he has attained the rank of CPL and is now reaching for Master Locksmith certification.

But this shows only a part of Ted's capabilities.

He is developing quite a following. Frequently, when customers learn Ted works only two days a week, they will choose to wait until one of "his" days to have their work done.

One lady surprised us, recently. The contact person for one of our regular commercial customers, she has a rather brusque personality. Apparently, she's had to put up with a lot from service companies over the years, because she seems a bit paranoid about being taken advantage of. Furthermore, she often displays

the attitude that she knows more about your products and services than you do, and she always wants the work done "yesterday."

Ted responded to her call for lock service, recently. The job entailed most of a morning to accomplish. She called again the following Monday with an additional request.

"I sure do like that Dr. Brook you have working for you," she said. "He's a real asset to your business."

"Thank you," I replied, a bit surprised at her unusually pleasant mood. "We feel very fortunate to have him working with us."

"Oh, you should. He's so nice and polite; a real gentleman, always smiling and in a good mood. I wonder if you could send him over here this morning to take care of this other little problem?"

"I'm sorry," I replied. "Ted only works Wednesdays and Fridays." Knowing how impatient she usually was to have work done immediately, I added, "But Don or Dave will be glad to take care of this for you right away."

"Oh, I'm not in all that big a rush," she said sweetly. "Wednesday will be fine."

Needless to say, Ted took some razzing around the shop later that week, but he shrugged and took it in stride.

Two weeks later, he drew the job of going out into the country to affect some repairs and install a new entry lock on the ranch house of an aging widower. The man had recently been in the hospital and was not getting around much, so his daughter had brought him an entry set she had selected in San Antonio. She chose one based upon appearance, giving no

notice to the lockwork, itself. It was a heavy, commercial grade mortise lock that would not fit the door without a bit of carpentry.

When Ted saw the lockset, he advised the daughter to return it and let him provide something more appropriate. "I'll come back in the morning and get it installed for you," he promised.

That afternoon, the phone rang at the shop.

"All Lock & Key," I answered.

"There's a blue norther coming. What time's Ted gonna be here?" said a husky voice over the telephone.

"I beg your pardon?"

"In the morning, Ted's supposed to come put in my door lock on the north side. I want to be sure he gets here before that norther blows in."

Then I knew who was calling. The weatherman was predicting a cold front. In Texas, "blue northers" are a solid line of blue clouds that sweep in from the north, heralding a sudden, severe drop in temperature, usually accompanied by strong winds. I've known the mercury to plummet thirty degrees or more in less than an hour in these conditions. Ranchers are always alert to the potential dangers of such a drastic weather change, particularly as relative to their livestock (not to mention a malfunctioning door on the north side of their house).

"I'm sure he'll be out there first thing. He should have everything in place before the temperatures drop," I assured him.

"While I've got you on the phone, I wonder if I could get you to have him

Continued on page 110

THE DOOR-AID POWER DOOR OPENER

"Meeting the call for an ADA acceptable closing device, many companies have turned to electronic or pneumatic door assists/openers."

The Americans With Disabilities Act has been around for some time now, and slowly but surely businesses are moving to meet the requirements. In response, several companies have developed door opening aids or assists to meet ADA door closing/opening pressure specifications.

In many instances these devices are used because the opening pressures required to operate many exterior doors exceed the maximum as set by ADA. This is especially common where wind and interior building pressures affect the operation of the door(s). The oversized, and usually adjustable, door closers normally used to compensate for these problems often don't meet ADA requirements for opening pressure. On the other hand, if lighter ADA acceptable units are used, doors are often left open or end up flapping in the breeze.

Meeting the call for an acceptable closing device, many companies (especially door closer companies) have turned to electronic or pneumatic door assists/openers. These units are typically designed for easy retrofit installations, operate either electrically or pneumatically, and are much less expensive than a full fledged door opening system. The Door-Aid system is an electro-mechanical opener that combines the benefits of full-fledged heavy duty commercial operators with the ease of a retrofit installation and at a significantly lower price. In fact, after doing this installation, it was apparent that this unit is not any different than mounting a standard door closer.

Recently, Michiana Lock and Key

of South Bend, Indiana, working with Door-Aid Customer Service Representative Tom Ford, took advantage of the ADA induced changes. To meet the opening pressure specifications Door-Aid low energy door openers were installed onto two of the doors. It should be noted that this device is not a "door closer." These are electro-mechanically operated openers. Once opened the door is closed and held shut by the existing door closer. The Door-Aid device can be mounted to either push or pull a door open, allowing it to be mounted on the interior side of the door.

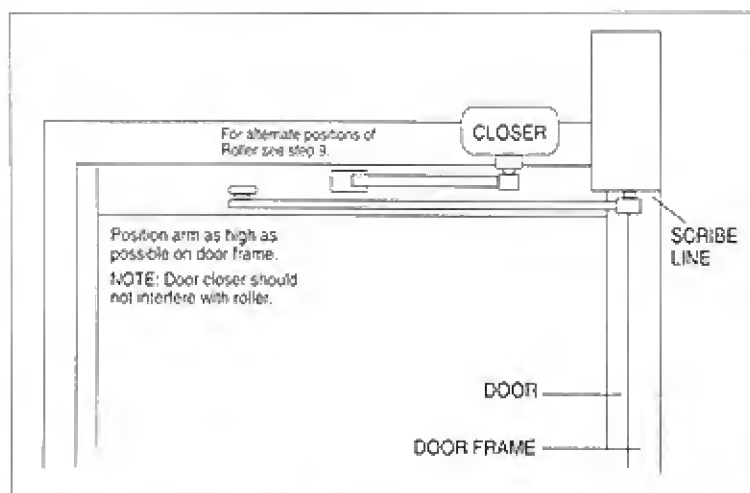
standard door closer. Before beginning it is necessary that the door being worked on is operating properly. Open and close the door making sure there is no binding or scraping that hampers door operation. Correct any existing problems before installing the unit. Once the door is working well, you're ready to mount the unit to the door frame.

The mounting position you choose will be determined by the frame type and door closer installation currently on the door, and whether you need a push or pull operation from the Door-Aid. On this particular installation, we had narrow stile aluminum doors and frames. Having center hung doors and overhead concealed closers, we wanted the unit to push the door open.

Taking the entire unit with the activator arm attached, we placed the unit up to the door frame and positioned it. In this case we were not concerned about a door closer being in the way, and our only concern was for the location of the activator arm. Position this arm so that it is level or square to the door.

In many instances a door closer is present. In this case, the unit must be mounted so the activator arm and roller are positioned as high as possible to the door frame without interfering with the closer or closer arm. Once the unit is positioned, scribe the frame at the bottom of the unit's chassis. (See illustration 1.)

When complete, re-move activator arm, the electronics assembly frame and gearmotor from the chassis. (See photograph 2.)



1. Place the Door-Aid up to the door and scribe. Make sure the activator arm clears the door closer.

While this unit does need a 120 VAC, 15A (the actual nominal draw of the device is only 2 amps) power feed in order to operate, this should not scare the locksmith. The Door-Aid uses a standard three pronged plug to make the connection. Before doing an installation, however, make sure that there is a power outlet near the unit. In most instances one will have to be added. This can be contracted by you or the customer, depending on local and/or state codes.

Installing these units are, in fact, quite simple, and similar to installing a

Continued from page 58

Now place the back mounting bracket up to the scribe line and mark and drill for the mounting screws. On this installation our only concern was clearing the body of the concealed closer with both the drill bit and the mounting screw. (See photograph 3.)

Remove all the back mounting bracket screws except for the "T" tab screw. The "T" tab is the small piece of the bracket that is bent and wraps around the side of the frame. (See photograph 4.)

With all of the screws removed, attach the chassis to the mounting bracket. (See photograph 5.)

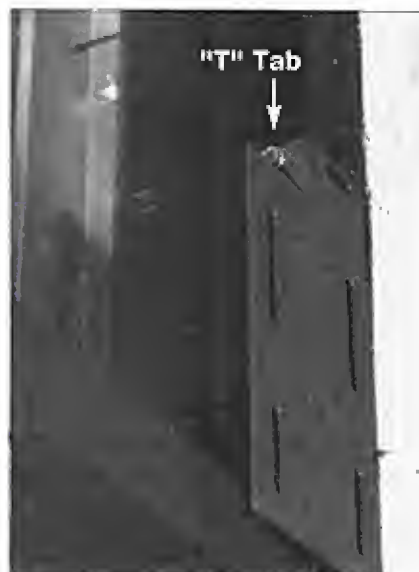
Then reinstall the gearmotor and electronics assembly frame. (See photographs 6 and 7.) There are three electrical connections to make at this time: Two green wires that are attached to the grounding screw, the power plug to the control board, and the motor plug. (The direction of the actuator arm rotation is determined by the control board connection. If the motor is rotating the arm the wrong



2. Remove the gearmotor and the electronics assembly frame.



3. Position and fasten the back mounting bracket to the frame.



4. Remove all screws except the "T" tab screws from the mounting bracket.

NATIONAL
AUTO LOCK SERVICE, INC.

National Auto Lock Service, Inc. offers a wide range of equipment and services for the Automotive Locksmith. From tools and hard to find key blanks to transponder programming, we can take the mystery out of car service. We accept credit card orders, and can ship COD. Contact us for the latest in automotive technology.

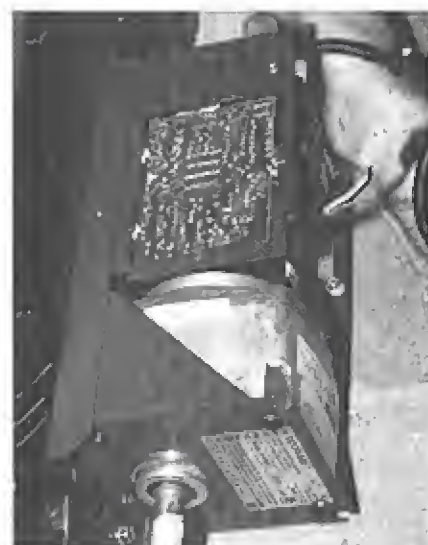
www.laserkey.com



5. Attach the chassis to the mounting bracket.



6. Reinstall the gearbox



7. ...and the electronics assembly frame.

way simply reverse the plug.)

The Door-Aid comes ready to use for a wireless touch button. Several wireless touch buttons are available depending on application, and are ordered separately. In some situations a wireless button may not be practical or possible and it will be necessary to hardwire the switch. This can be easily done by using one of the two switch plates offered by Door-Aid and making the appropriate connections at the receiver plug found at the bottom left corner of the control board.

Next, install the actuator arm. The arm comes with a spline key. Place the spline key into the slot on the motor shaft, followed by the actuator arm. You're ready to test and adjust the unit. (See photograph 8.)

The Door-Aid has four adjustments that are made through small trim pots (potentiometers) at the front of the unit: Hold force, open speed, hold time and open time. (See photograph 9.) After making the appropriate adjustments, place the cover on the unit and mount the touch button. (See



**Choose S&G
Comptronic electronic safe
locks for...security...
technology...tradition.**

[Click here for more information](#)

SCHWAB CORP.
Fire protection for your vital records.

Free
freight!!

No middle
man!!

[Click here for more information](#)



8. Attach the actuator arm.



9. Make the final adjustments.



10. Place the cover over the unit.

photographs 10 and 11.)

In our case, we used the wireless button. After drilling four small mounting holes, the unit was easily attached to the wall. Before mounting, however, test the unit several times to make sure that the transmitter signal from the button is received and operates the Door-Aid unit.



12. Michiana Lock & Key of South Bend, IN, is just one locksmith company taking advantage of new ADA regulations. Front from left, Mark Elliot and Sarah (Mom) Seifer; Back from left, Jeff Hall, Jack Seifer, Dan Trossen, and Mike Nagy.

Despite the rather slow response, American businesses are now starting to respond to the ADA. McDonalds and Service Merchandise are just a couple of the large national and international chain stores who are making changes to meet requirement deadlines. Others are also falling in line, and in a few years we should see the smaller companies follow suit.

Through the process, however, the single biggest complaint by the



11. The wireless touch button made this job easier by not having to run extra wire for the switch.

locksmith has been the lack of business despite the ADA law. The anticipated calls resulting from the new law has not affected the locksmith to any large degree. This result, however, is caused by the usually static marketing style representative of our trade; sitting around waiting for the phone to ring.

What needs to be remembered, is that ADA wasn't created by locksmiths nor for locksmiths! If you want a piece of the pie, it is necessary that your marketing be proactive. Customers need to be informed not only of the requirements they must meet (demanding a locksmith educated in ADA) but also that you can help them meet those requirements. These are the locksmiths that will benefit from ADA. (See photograph 12.)





by
Rick Segerstrom

THE SOUTHERN STEEL 1010 LOCK

"The 1010 is used on a lot of electrical and plumbing chase covers, or where an interior door may be in contact with the inmates."

This month I want to delve a little deeper into the Southern Steel 1010 lock. This lock is designed to be used on areas not requiring maximum security, such as interior doors and food pass units. These locks are used also on a lot of electrical and plumbing chase covers, or anywhere that an interior door may be in contact with the inmate population.

These locks are not supposed to be used on exterior doors in direct contact with inmate populations. This comes directly from the Southern Steel manuals, however I have found many, many of these in just that application. When I find these type locks in that type of application, I write on my invoice a note to the effect that this type of installation is not in accord with factory standards, and that I will not accept responsibility of any kind for the operation or security of this door.

In photograph one you will see the basic lock fully assembled. The four holes in the corners are the mounting screw holes that facilitate the mounting of the lock into the door. These holes also hold the cover plate on the lock case. Notice the sticker has been peeled up in the lower right hand corner revealing another screw that also holds the faceplate on. You will have to peel the sticker back, or damage the sticker to get to this screw. The location of this screw is intentional, and is meant to be hidden from view.

Photograph two shows the lock fully disassembled into its component parts. Notice the two piece case, the bolt assembly and the nose plug. These are really all there is to this lock. The five wafers in the back are able to be changed to facilitate rekeying of this lock. To accomplish the rekeying process you must order from the factory the necessary wafer

pack to fit and you must specify if you want this pack to match any other lock number or if this lock is to be keyed different from any others. If you are keying it different, don't forget to order the keys that fit the code. Remember, everything is ordered separately!

In the next series of pictures, we see the reassembly process for the lock. Photograph three shows the

bottom half of the case totally empty. Notice the mounting stud onto which all the internal components are mounted.

Photograph four shows the bolt assembly in place with the bolt extended. Notice how the assembly slides around the stud through the cutout in the end. Notice also how the hook at the bottom of the bolt assembly contacts the lower stud for positive extension stop travel.

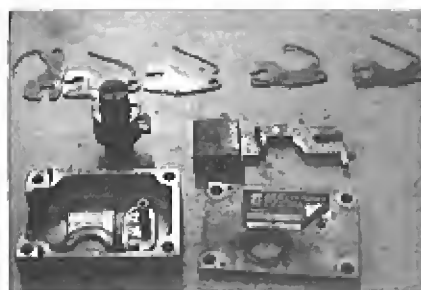
Referring back to photograph two, notice the stud on the bolt, used for the positive gate alignment when the correct key is used. As I have stated before, if you are familiar with safety deposit box locks, you are familiar with these type locks. The same concept is incorporated with the component parts being much bigger in the detention locksets.

Photograph five shows the nose installed into the case. The actuating cam is in the appropriate groove for proper operation. Notice that the bolt is retracted and the keyway is turned about 60 degrees off the horizontal. This doesn't really mean anything, it just allowed for the best view of the actuating cam at the back of the nose.

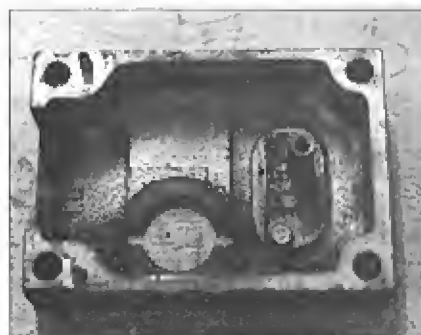
The nose piece is the part of the lock with the keyway. If you were called to just change the keyway of a lock, and the cuts on the key can remain the same, you could theoretically just change out this nosepiece to accomplish your goal. Finally, in photograph six we see that the first of the five levers installed in the case. Notice that the stud is used for the mounting of these levers and that the gates lock onto the bolt stud. The tension wire at the very top of the case has been placed inside the case, pressing on the upper portion of the case.



1. The Southern Steel 1010-2 lock.



2. The disassembled lock.



3. The bottom lock case.



4. The lock ball is put into place.

Each lever must be installed in the proper sequence for the key it is to be operated with. By stacking the five levers, you accomplish the task of keying the lock. Make sure that the springs are not bent too far so as to allow the levers to "free float" in the case. You want positive down pressure on all of the levers at all times in the case. Sometimes it can be a real hassle to get the levers and springs in the proper order, and to get everything to fit into the case; but most of the time



5. Installing the nose.

with a little practice you will be able to completely rekey one of these locks in about five minutes time.

A point to make here is that the unit can be ordered with six levers in it for greater security, and in some cases, greater keying possibilities. Make sure which one you are working with.



6. Installing the levers

I have been asked what is filed if the gates and the keyways don't match exactly, the gate itself or the radius of the lever? My answer: most all the time the factory sends you the exact parts required with proper tolerances on each. It is a rare occasion when you must file anything. If you are having difficulty making it work properly, first recheck the installation of the levers themselves, next check to make sure the lever springs are properly bent and

installed, and finally if you absolutely must file on something, file on the radius of the offending lever, never file on the gates, as this lessens the security of the lock, and never file on the key. I have found that the keys are cut to exacting tolerances and are correct 99.9 percent of the time.

In the meantime, if you have any questions please feel free to contact me through *The National Locksmith*.



SRI
SECURITY
RESOURCES INC.

SRI and Tech Train Productions are the automotive specialists - your best source for automotive tools, manuals, and videos.

[Click here for more information](#)

OPENING A 1994 CHEVROLET S10 PICKUP

"Make fast opening of the 1994 Chevy S10 Pickup."

by Tony Vigil

Make fast opening of the 1994 Chevrolet S10 Pickup. (See *photograph 1.*)

Use a wedge to separate the glass from the weatherstrip at the rear of the window, near the handle.

Insert High Tech tool 1823WH (white handle) near the rear corner of the door with tip towards rear of the vehicle. (See *photograph 2.*) With the tool inside and below window, rotate tip towards inside of vehicle. (See *photograph 3.*)

Lower tool on top of the lock linkage.

Rotate tool to bind the lock linkage. (See *photograph 4.*)

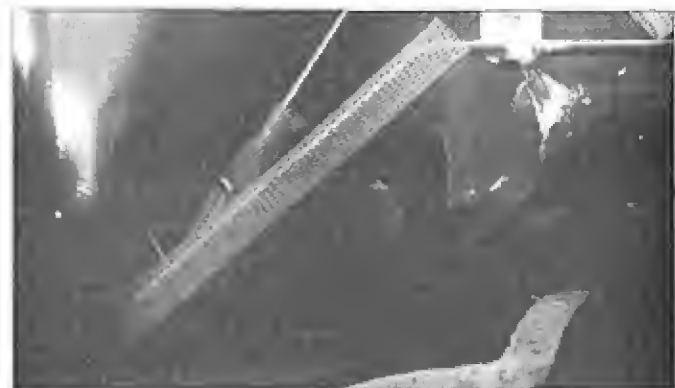
Tilt or angle the tool to move the lock linkage towards the front of the vehicle. (See *illustration 5.*)



3. Once past glass, rotate tool towards inside of truck.



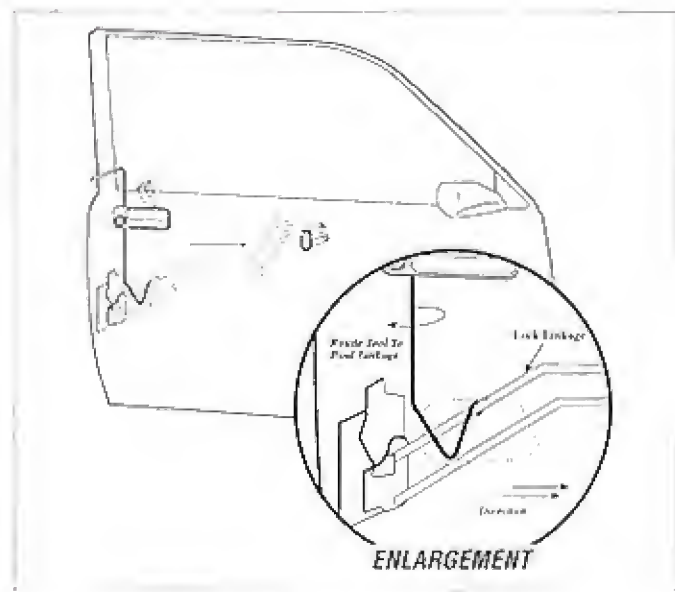
1. The 1994 Chevrolet S10.



4. Rest tool on top of lock linkage and bind.



2. Wedge window and insert tool with tip towards rear of truck.



5. Move tool towards front of truck.



THRU THE KEYHOLE



*A Peek at
Movers & Shakers
in the Industry*

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

Schlage Awards "Dobermans Of The Year"

Mary Lou Holte's neighbors call her "Joan of Arc" for her one-woman patrols against criminals in high-crime areas of Van Nuys, California. Leola Spann's creative use of a 100-year-old "nuisance abatement" law has helped shut down a dozen "drug houses" in her west side Chicago, Illinois, neighborhood.



The Doberman certificate awarded by Schlage Lock Company.

Today, Holte, Spann and three other outstanding leaders from around the country were named "Dobermans of the Year" by the Schlage Lock Company. Schlage will make \$500 contributions to each of the 1993 Doberman Award winners.

Mary Lou Holte **Van Nuys, California**

Holte, 45, is a one-woman war

against crime. The tireless Van Nuys resident personally faces down criminals during her, often solitary, nighttime walks in the community. Armed with a flashlight, green dye for marking possible attackers and a pen and pad, Holte walks the streets of Van Nuys, reporting suspicious activity to the police via telephone. The sight of Holte among local criminals tells them they are being watched; the result is that they move on.

A 1988 victim of an assault that left her with two broken ribs, Holte instructs the nearly 100 members of the neighborhood Townkeepers Action Group she founded in 1988 in ways of maintaining their own safety.

Carole Harkte **Baltimore, Maryland**

Harkte's group, "Pooches on Patrol," was formed near Patterson Park in Baltimore as a result of increasing drug and prostitution traffic drifting into her neighborhood. Harkte and other members of the Patterson Place Community Association walk their dogs through their neighborhood. When they come upon loitering drug dealers or prostitutes, they gather around them and wait — making it very hard for the criminals to conduct their business.

Leola Spann **Chicago**

Spann's Northwest Austin Council invoked a little-known, 100-year old city "nuisance abatement" ordinance to shut down a neighborhood crack house, setting a precedent and establishing a model for statewide programs. Using the ordinance and filing lawsuits against the owners of crime-infested properties, the group has since closed or has confiscated a dozen buildings in Chicago, many of which have reopened as legitimate neighborhood businesses. The group has also initiated neighborhood

patrols and an anonymous crime hotline.

John W. Jenkins **Clearwater, Florida**

Drug dealers know they aren't welcome in Clearwater's South Greenwood neighborhood, thanks to John Jenkins Jr., 68. The retired railroad porter and grandfather organized the South Clearwater Progressive Action Association, a group of up to 40 members who, trained by the police, maintain surveillance on suspicious activity over a one-million radius high-crime area. Using CB-radios, the group relays its observations to police who take action.

A deacon in his church and known throughout the community, Jenkins also serves on the board of a neighborhood organization which builds and renovates low-income housing areas.

Essick Green **Cleveland, Ohio**

Described by Cleveland police as "very effective, very dedicated," Green is a community activist who helps protect the Cudell neighborhood on Cleveland's west side. Green has been instrumental in eradicating much of the drug trade from her blue-collar neighborhood through constant vigilance.

Schlage Lock Co. also invited the public to participate in next year's Doberman awards by sending nominations to "1994 Doberman Award Nominations," Schlage Lock Company, 2401 Bayshore Boulevard, San Francisco, California 94134. Nominations should describe how the candidate has helped protect his or her community during the year and provide a phone number and mailing address.

ACME School of Locksmithing

Acme School of Locksmithing is a residential School located in Worth, Illinois, about 20 miles southwest of downtown Chicago. Acme School is licensed by the Illinois State Board of Education.

The owner and founder, William T. Beranek, is a qualified locksmith and safe technician who has been practicing his profession as a lock shop and mobile service owner for more than 20 years. The objective of the locksmith program offered at Acme School is to introduce and teach the basic skills one must know to begin a career in this field. This course was developed for the individual with no experience or prior training, or for the individual with previous experience who wants to expand and further his abilities and techniques.

At Acme School, students will be trained and taught by professional, state approved instructors in an actual workshop setting. The ample space classroom is designed to accommodate 10 students very comfortably. This is a "learn by doing" training course.

There is also a fully-equipped Lock & Key shop on the premises where students may observe qualified locksmiths in action and practice themselves.

Course tuition is as follows: Enrollment fee - \$75.00, Books & Tools - \$150.00, Tuition - \$950.00. Total Instructional Cost - \$1175.00. Master Card and Visa cards are accepted. No Certificate of Completion will be issued until tuition is paid in full. Applicants should register a few weeks prior to their starting day of class attendance, because classes are limited to 10 students per session.

Time-wise, the two week is excellent for the out-of-town students. There is a motel a few blocks away which allows a special discount rate for Acme students. Also, arrangements will be made to pick up students from O'Hare or Midway airports, if desired.

Acme School has had the pleasure of instructing students from all over the United States, and some from as far away as New Zealand.

Acme School has recently added four Advanced Specialty Courses. Course 1 is Electric Strikes and Adams Rite locks. Students learn to wire an electric strike from start to finish, and what causes faulty electric strikes. Installation of Adams Rite locks, routing metal frames, troubleshooting, and emergency opening procedures are also covered.

Course 2 is Commercial Locksets and Removable Core Cylinders. Students are taught assembly and disassembly procedures, how to key and masterkey interchangeable cores, corrective and preventive problem procedures. Schools, hospitals, hotels, and apartments complexes generally have one lock manufacturer supplying their demands. Therefore, students choosing to participate in this course may select a particular manufacturer of locks.

Course 3 is Intermediate Masterkeying. This course includes planning a masterkey system, system design and maintenance, computerized masterkeying and key control.

For more information, contact Acme School of Locksmithing at 708-361-3750.

Sentry Group: Innovation In Fire Security

Back in the Great Depression, when John D. Brush and his brother-in-law set out to manufacture safes that would protect their contents from fire, they knew they were pioneering a brand new industry.

What they couldn't have realized — but would surely be immensely pleased and proud to know — is that the company they founded would consistently remain at the forefront of that industry, using innovation and modern engineering to take fire protection into the 21st century.

Over the years, the John D. Brush Company, now Sentry Group, has never rested in its quest to bring new and better fire-resistant products to

the marketplace. In fact, the company holds numerous patents for technology developed in its laboratories. Through constant exploration of new product design and engineering techniques, it has led the industry in increasing the protective qualities of its safes and other storage products.

A clear example of the company's long-abiding expertise and commitment to quality is its brand-new Sentry® Fire Safe® model 3100, the first in its new Advanced Fire Security line. More than three years in development, the new safe offers two full hours of UL-tested fire protection in a unit with nearly the same wall thicknesses as our one-hour safes.



Sentry Fire Safe Model 3100

What makes that possible is a series of engineering innovations that revolve around several key patents owned by Sentry. For one thing, the new product's interior and jamb are molded, as opposed to being made of steel. Because of its construction, it also offers features and benefits to consumers in addition to protection from fire.

For instance, there is no seam in the interior construction, making the safe moisture-resistant. In addition, by making the unit in white, we were able to give the safe a lighter and brighter, clean-looking finish to satisfy consumers' esthetic requirements. The molded construction also

Continued on page 87

Continued from page 84

provides flexible storage options for the interior.

Equally as important as Sentry's advances in product design and technology, however, are the company's ongoing efforts to research and meet the needs of the marketplace. Everything we learn through consumer surveys, focus groups, and one-on-one discussions is incorporated in some way into our product design and/or marketing strategies.

From the perspective of the locksmith industry — one of our key markets — some of the findings of our consumer research of the last ten years should be of particular interest. For instance, when questioned about their primary concerns regarding security for their belongings, consumers' number one priority was protection from fire. Physical security was certainly important, but the threat of fire was unquestionably of more concern.

What's more, the average consumer's perception of what represents physical security is not always accurate. For example, many people think big, thick hinges on a safe represent greater security, when in reality, it is the boltwork that ensures that the door cannot be removed. Yet to satisfy the perception, we have put a large continuous hinge on our model 3100 safe — along with real security features including six live-locking bolts, pry-resistant butted seams, privacy shroud around the dial, and optional floor/wall bolt-down system.

In short, for more than 60 years, Sentry Group has literally made it our business to provide the highest quality fire protection in a wide range of products to fit every customer's needs.

While the physical nature of fire has not changed in 60 years, the technology for protecting valuable and irreplaceable items from it certainly has, in large part due to innovations by Sentry Group. And it is our goal for the next 60 years and beyond to continue to create effective, affordable fire protection and security storage products for every consumer need.

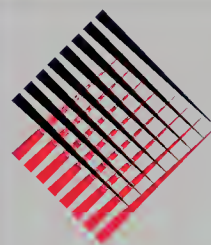
For more information on the model 3100 or any other product in Sentry Group's extensive line, write or call us at 900 Linden Ave., Rochester, NY 14625, phone (800) 828-1438.

Dugmore & Duncan

Dugmore & Duncan is a well known name in the security industry as it dates back to 1897. Current owners and administrators, Chuck and Bob Cullum, have combined a solid history of quality products and reliable service with outstanding modern technology to

form an impressive operation.

The main office of Dugmore & Duncan is located in Hingham, Massachusetts, the quiet exterior conceals the carefully co-ordinated activity that reflects the planning of its president, Chuck Cullum. The methodically laid out warehouse is stocked with an extensive quantity of door hardware available for immediate delivery. Dugmore & Duncan is referred to as The Sargent Source because it is the largest full-stocking distributor of Sargent in the world.



STRATTEC™

The world's largest
producer of
automotive locks
and keys.

[Click here for more information](#)

Chuck's personal affiliation with locksmithing has given him a thorough knowledge of the products he distributes. Because he has rigorously passed this along to his sales technicians, callers find that they are able to acquire the products they need and also to have their questions answered effectively. Chuck is quick to point out that his employees have applied themselves to the business so conscientiously that he credits them with its accomplishments.

Specializing in the aftermarket, Dugmore & Duncan representatives possess the talent to assist locksmiths in identifying solutions in retrofit situations and recommending and supplying replacement parts for repairs. Supported by a skillfully designed computer system, Dugmore & Duncan has established a record of superior service and efficiency.

Because delivery time is so important in the security hardware market, Chuck and Bob targeted areas of the country where additional



Tom Flery, Massachusetts Branch Manager, has the technical knowledge to access file sizes department turning smoothly.

full-stocking warehouses would serve the needs of customers. In January of 1989 the Riverside, California branch went on line joined in January of 1991 by the Lakeland, Florida facility. Linked by direct telephone ties and more than fifty computer stations that access information simultaneously, the three branches work together very closely. With strategically placed branches providing full service to the locksmith, Dugmore & Duncan's performance has surpassed its own well established reputation.



Russ DeCoste is part of the team that keeps the warehouse stocked with the Sargent product line.

Always alert to the needs of the locksmith, Dugmore & Duncan is now distributing its newest product, a hardwood pin kit for keying Sargent cylinders. The DD1W has numbered pin chart with appropriate reorder numbers as well as a removable pinning block which exposes a felt

Continued on page 90

ASP - Your Auto Service Center for the World

[Click here for more information](#)

Continued from page 88

lined area for keeping track of parts. Tweezers and a durable steel follower are included to complete the kit. The DD1W is available exclusively from Dugmore & Duncan.

Looking to the future, Chuck and Bob emphasize that their objective is to continue to be a supplier that the industry can rely on and to remain attuned to its evolving needs, the staff is aware of the partnership that exists between the company and its clients; the satisfaction of the customer is the unqualified factor that guarantees the continued success of Dugmore & Duncan.

For more information, contact Dugmore & Duncan at 800-225-1595.

Andrew's Wholesale Lock Supply New Facility Improves Service

Andrew's Wholesale Lock Supply, Lebanon, Pennsylvania, has relocated to a new headquarters which has increased the warehouse and inventory storage facilities, and added seminar and training rooms for the automotive lock supply trade.

According to the owner R. "Andy" Rudy, the new warehouse features skylights which aids in the lighting and heating as well as helps the environment by saving energy. Floor space has increased over 30 percent.

In addition to the new warehouse, Andrew's Wholesale Lock and Supply recently upgraded their computer system. The computer keeps count of inventory and also locates the part on the shelves in the warehouse. Customers will know the part is on the way by the time they hang up the phone. Parts are shipped as soon as ordered.

Andrew's Wholesale Lock and Supply is well-known for sponsoring seminars and workshops on new lock technology. With the new seminar room, locksmiths come on-site to the company. A seminar is in the planning stages for Summer 1994.

With 100 percent of the past-market automotive security locks and key blanks in its inventory, the company carries the quality automotive lock and ignition products from Briggs and Stratton and Automotive Security Products (ASP).

Andrew's offers minimum freight charges and three convenient ways to pay: COD/Cash, Mastercard and Visa. They have a toll free phone line 1-800-544-0519 and 24-hour fax line 1-717-274-8659.



***We have it all.
Quality, Value,
& Service.***

[Click here for more information](#)

Coming up next month in our June issue:

- **Profits in Access Control** will be addressed as our cover feature.
- **The World of Decorative Hardware** will be highlighted in our mini section.
- **The Security Certificate Test**, our quarterly exam, will also be featured.

BUSINESS BRIEFS

News from the Locksmithing Industry

INDUSTRY INTERVIEW...

Many of you are familiar with this month's interviewee - Sara Probasco. Sara is a locksmith, speaker, seminar instructor, and author/humorist. She has been the writer of *The National Locksmith's* monthly column "The Lighter Side" for a number of years. Her positive and upbeat perspective on life comes through in her latest book "Service With A Smile," a collection of her best articles.



Most of Sara's subject matter comes from her insight into the world of locksmithing developed while working with her husband Don and as office manager in their shop, A-1 Lock & Key.

"I started about eight years ago," she said, "We moved to Uvalde (Texas), and Don wanted to go from a mobile service to a retail store. Well, in order to do that, he needed someone who could watch the store while Don was out on service calls. I agreed to do it until we had employees to watch the store and to I wouldn't have to be there.

"Today, I'm still here, although we've got employees and I'm not here the whole week."

Asked what changes in the field of security she's seen in those eight years, Sara responds:

"I really haven't been in long enough to see major changes," she said, "I just about started from scratch. When Don and I got the store, he showed me a few things, then left to go do service calls. I kind of grew with the changes.

"If I had to list a few I'd say electronics has been the most noticeable. Everything is going high tech. Even automotive is going high tech," she says.

"And, today, there's a need to operate in a more business like fashion. Locksmiths need to be more knowledgeable of products; they need to display a professional image."

Sara has also seen changes in the particularly male

dominated trade.

"Locksmithing has been more male oriented in the past," said Sara, "but we are seeing the flipping of roles.

"Women have common sense and there are a lot out there that have a feel for mechanical things. I always enjoy the surprised looks I get from customers who watch me work. 'A woman can do that?' they ask.

"It seems today that women are feeling freer to come into this field. The public is more accepting. The fact is, there are women that own and operate some very successful shops that include several employees and service trucks. This is nice for many customers, especially women, who sometimes feel more comfortable with a woman locksmith," says Sara.

"And whenever a woman is involved there seems to be aesthetic differences in the business, they seem to be more aware of neatness," she concluded.

And what does Sara believe are some of the locksmiths' basic needs if they are to succeed in the future?

"Change!" She says. "Locksmiths need to be flexible. The next decade is going to bring on electronic locks. Locksmiths have to learn and educate themselves.

But that's not all!

"The secret to being a successful locksmith is knowing where your money is going; Know your profit margin.

"A lot of locksmiths run out and open a car for \$15 and think, 'Oh boy, I just made \$15.'

"What they don't take into account is how much it cost them to make that \$15. They forget the gas and wear-and-tear on the vehicle. They don't know what their time is worth. They have no idea how much money they made or lost.

"Locksmiths need to build better business practices."

And what final advice does Sara offer to locksmiths?

"Go the second mile." She said. "It'll come back to you. If someone comes in with a small problem and you fix it real quick, tell them 'it's no charge.' It will come back to you. And if it doesn't, then do it for yourself!

As for women becoming locksmiths?

Sara says, "Go for it! Women have an edge, today. They're a novelty. Customers are impressed that we can do jobs normally done by men!"



INDUSTRY NEWS...

In a ceremony that took place in Birmingham, Michigan at Chrysler headquarters Briggs & Stratton Technologies was presented with the Chrysler Corporation's Platinum Pentastar Award. The award recognizes suppliers with world-class performance throughout their corporate organization.



(left to right) Robert Lutz, President of Chrysler Corp.; John Shiely, Exec. V.P. Administration for Briggs & Stratton; Harold Stratton, V.P. & G.M. of Briggs & Stratton; Tom Stallkamp, V.P. Procurement & Supply and G.M. large car operators.

American Lock & Supply announces the establishment of a new division, American Access Supply. According to Sean DeForrest, President and Chief Executive Officer, the new division



Sean DeForrest, American Lock & Supply President and CEO.

will be dedicated toward meeting the increasing demand for electronic access products among security professionals.

Brian Strom has been promoted to vice president of sales and marketing of Alarm Lock Systems, Inc. Formerly national sales manager.



Brian Strom, Vice President of Sales and marketing of Alarm Lock Systems, Inc.

Rich Paladino has been promoted to vice president corporate sales for Napco Security Systems and its Alarm Lock Subsidiary.

Billy B. Edwards Jr., CML, general Manager of Locksoft Inc. and owner of The Edwards Company has been accepted as a member of Who's Who International and will be listed in the 1994/95 Who's Who Registry of Business Leaders. Mr. Edwards was given a plaque to commemorate his award which stated "Memberships are limited to those individuals who have demonstrated outstanding leadership and achievement in their occupation, industry or profession."

Marks U.S.A. is pleased to announce the appointment of Dave Akins as National Sales Manager. Mr. Akins will oversee an independent sales representative organization totaling approximately 30. His expertise in the technical and mechanical aspects of locks was developed in his previous years working as a lock technician in Memphis and New York.

American Lock Company, Crete IL, has appointed Leo Clark and Eric Uttenweiler regional managers for its new Professional Security Group. Clark has been promoted from industrial sales representative to Western Regional Manager, and Uttenweiler, most recently sales manager for Espar Chemical Co., has been named Eastern Regional Manager.

Chicago Lock Company, a Chicago-based manufacturer of security locks used in hundreds of industrial applications, has announced the introduction of a new corporate logo. It is the first logo change since the company was founded by the present owner's father and grandfather and three other families in 1920.



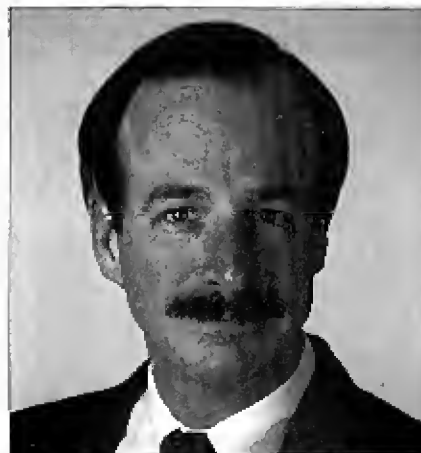
New Chicago Lock Company logo.

American Security Products Company (AMSEC) has named Shane Crosby as Manager of their Technical Services Department.

At AMSEC, Crosby will be in charge of technical customer service, aiding customers and technicians on servicing AMSEC's wide range of physical security products.

Locksmith Distributors of America announces the appointment of Mike Groover to Chief Executive Officer of the LSDA Corporation. Mr. Groover's distinguished career in the Locksmith Security Supply industry spans over 20 years. He began his career at Armstrong's Lock and Supply in Atlanta, Georgia. In 1985 he was promoted to President of Acme Wholesale Distributors. While there, he expanded operations into four cities before accepting this new position.

Mr. Groover and his staff will operate out of LSDA's new corporate headquarters in Dallas.



Mike Groover, CEO of the LSDA Corp.



ENTER THE TECHNITIPS 1994 CONTEST

Silca's Bravo USA



FIRST PRIZE

Locksmith designed, the Silca Bravo USA is a quality semi-automatic duplicator. Four-way jaws hold even the smallest keys as this. One of the most accurate key machines on the market.

HPC's Punch Machine™



SECOND PRIZE

The Punch Machine™ (1200PCH) is HPC's newest addition to the 1200 series key machines. It works on the same principle as the 1200CM, making it quite versatile. It is also very accurate and completely portable.

Belsaw 200



THIRD PRIZE

Duplicate, cut by code, cut flat steel keys. Complete machine with motor, three cutters, guides, and instructions. Built in micrometer.

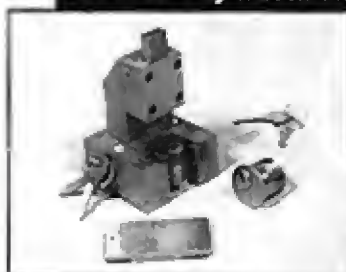
HPC 9120



FOURTH PRIZE

HPC's most compact key cutting machine features reversible jaws. Double sided copy dog cuts flat steel and safety deposit keys and has softy brush. Excellent versatile machine.

Accumark Key & Lock Stamp



FIFTH PRIZE

For the easiest and straightest way to coin. The Accumark stamp holder provides accurate stamping of keys and mortise lock faces. Includes holder, mortise cylinder attachment and a custom stamp.

\$100 Cash & Flat Rate Manual



SIXTH PRIZE

\$100 in cash will brighten your day! So will the Flat Rate Manual for Locksmiths. The manual will help you price your services for profits. You won't ever have to guess how to price again.

CODE BOOKS FROM The National Locksmiths

General Code Book Set (NGCB)



SEVENTH PRIZE

These three books contain 450,000 codes covering domestic lock and automobile codes.

Padlock Code Book Set (NPCB)



EIGHTH PRIZE

These three volumes offer 462,000 codes covering Dudley, American (Junkunc), Master and Yale.

Foreign Code Book Set (NFCB)



NINTH PRIZE

This volume set holds 432,000 codes for the complete variety of foreign codes, from Alpha Romeo to Yugo.

TECHNITIPS

Helpful hints from fellow locksmiths

Send in your tips
and win.

HOW TO ENTER

All you need to do
is submit a tip,
covering any aspect
of locksmithing to
**The National
Locksmith.**

Certainly, you have
a favorite way of doing things that
you'd like to share with other
locksmiths. Why not write it down and
submit it to: *Jake Jakubowski,*
*Technitips' Editor, The National
Locksmith, 1533 Burgundy Parkway,*
Streamwood, IL 60107.

Tips submitted to other industry
publications will not be eligible! So get
busy and send in your tips today. You
may win cash merchandise, or even
one of many key machines or code
book sets. At the end of the year, we
choose the winners of the listed prizes.
Last year dozens of people walked off
with money and prizes. Wouldn't you
like to be one of the prize winners for
1994? Enter today! It's a lot easier
than you think.

EVERY TIP WINS "LOCKSMITH BUCKS!"

Yes, every tip published wins a prize.
But remember, you must submit your
tip to **The National Locksmith**
exclusively. Each and every tip
published in Technitips wins you \$25
in Locksmith Bucks! Use this
spendable cash toward the purchase
of any books or merchandise from
The National Locksmith. You will
also receive a Bonded Locksmith
bumper sticker and decal. Plus you
will be eligible for really big prizes.

BEST TIP OF THE MONTH

If your tip is chosen as the best tip of
the month, you will win \$50 in cash as
well as \$35 in Locksmith Bucks! Plus
you will receive a Bonded Locksmith
bumper sticker, decal and a
Locksmith cap. Plus, you may win one
of the annual prizes.



by
Jake Jakubowski

These Prizes Awarded Each Month!

- All-Lock A 7000 VATS Decoder
- HPC Pistolpick
- Silca Rubberhead Keyblanks (100 Blanks)
- ESP PR-13 Professional Lock Pick Set
- Sieveking Products EZ-Pull GM Wheel Puller
- Fort Lock Backer Board Display Panel

Submit your tip and win!

Tip Of The Month

1990 Corvette VATS Variation

I recently attempted to make an
ignition key for a 1990 Corvette,
using standard VATS/PASS
procedures. I got a very rude
awakening. With the doors closed
and a fully charged 12 volt battery, I
completed one full cycle of all 15
resistance values without the
vehicle starting. I put a fresh 9 volt
battery in my interrogator and tried
again, with the same results!

I procured a second interrogator,
checked the 9 volt battery and tried
two more sets of 15 with no luck.
With the aid of Dealer Technical
Assistance, I reached a GM
engineer and explained my
problem. After a lengthy
conversation with him, he was
convinced that either my equipment
was faulty or I had overlooked
something.

With no where else to turn, I
called the only plant in the country
where Corvettes are built ...
Bowling Green Kentucky. I was
lucky enough to reach an engineer
named Gordon Killabrew who knew
exactly what to do. The correct
procedure for generating an ignition
key for the 1990 (and only the 1990
model), is as follows:

Make your first three attempts
using your selected R-values the
normal four minute time delay
between attempts. Following the
fourth attempt, go to a 10 minute
delay between attempts. If you do
not use a ten minute delay, the ten
minute delay will start to recount
just like the three minute delay
does. This sequence was caused by
a change in the Central Control
Module (CCM) on the 1990 models
only. 1991 and up Corvettes went
back to the normal three minute
delay sequence.

I do a lot of VATS/PASS work
and have only encountered this
problem on the '90 'Vettes. The
engineer in Bowling Green told me
that just he and a few others knew
of this problem. Since the change
was rectified so rapidly, this
information will not be found in any
shop manual or service bulletin that
I'm aware of.

By the way, the car started on #7
after using the ten minute delay
procedure.

Tom Mazzone
Illinois

All Lock Vats Decoder Winner
Chrysler Minivan Rear Lock Removal

I received a call to open and make keys for a late model Dodge Caravan. The door locks on these vans are an adjacent part of the door handle cavity and use one key for everything.

After gaining entry to the van, I was trying to decide which of the three locks to attack to generate a key. Knowing what a bear the door locks can sometimes be, because of the blockage of the retaining screws that hold the lock in the handle access area that is caused by the bottom of the window track and even sometimes the window glass, I decided to try the hatch lock.

My first problem was how to get the hatch open in order to remove the inside vinyl trim panel to get to the lock itself, since there was no inside release mechanism to open the hatch. I noticed that of the two radio speakers in the hatch, the left one seemed to be in close proximity to the lock. I removed the left speaker cover, the speaker and disconnected the wires. Looking into the cavity and slightly to the right (2" to 3"), was the rear deck lock.

Like on many Chrysler product

trunk locks, the van's lock was retained by a large nut. Once I had loosened the nut, I was able to remove the lock from the outside of the vehicle and see the key code number. Since this was a pin tumbler lock, the code was of the ES/EP series. In 1990, Chrysler changed to the wafer type lock and the F, and then G, series code and eliminated the code on the hatch locks. There were some code numbers on later model ignitions but, I found them to be unreliable.

Joe W. Stevens, CML
Illinois

HPC Pistol Pick Winner
Compatible Keyway Chart

Here's a little tip that many of your readers (particularly newer locksmiths) will find handy. It's my "Compatible Keyway Chart." (See illustration 1.) Any of the keyways shown will fit into any of the keyways above or beside of it, but will not fit any of the keyways below it.

It's a simple, but helpful tip when you may be out of a certain key blank and don't want to drive back to the shop for the correct one.

David A. Keenan
Vermont

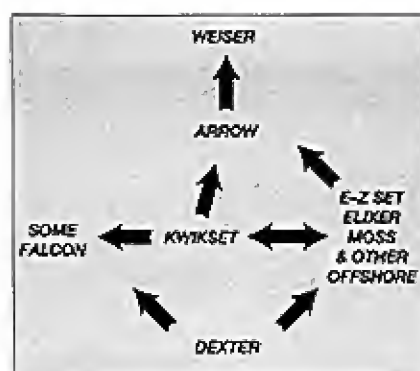


Illustration 1

Silca Rubber Head Keyblank Winner
Enlarging Key Bow

I recently made a key for a roll top desk on a Ilco 25B, double bladed bit key.

Unfortunately my customer had arthritis and found that they could not grip the small head of the key very well which made opening the lock difficult for them.

To solve the problem I cut the blade off of a DA-30 (X197), drilled three holes in it as show in illustration two, and riveted the small bit key to the large DA-30 head.

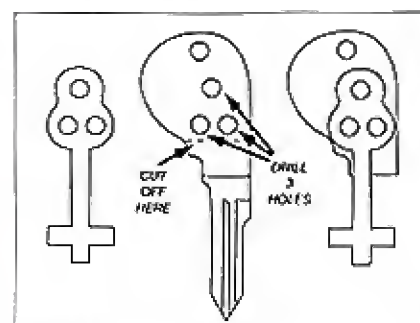


Illustration 2

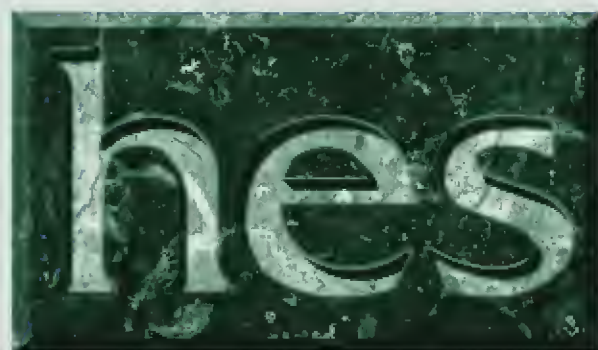
The customer was delighted to be able to use their "custom made" key to easily lock and unlock the desk.

Richard A. Holliday
Illinois

ESP Pick Set Winner
Pilfer Guard Alarm

I was called to service a malfunctioning Pilfer Guard alarm. The customer depends on this alarm, so it was necessary to get it back in service as quickly as possible.

Upon inspection, I found that the batteries were dead. This device uses



**The Innovation You Expect, with
the Flexibility You Need!**

[Click here for more information](#)

an Alarm Lock BP-6 battery pack, which I did not have in stock. To compound the problem, both local locksmith suppliers were out of stock on the BP-6.

Faced with the necessity of restoring my customer's unit to service, I took the old battery pack apart. This pack consists of a two piece, white plastic, housing that snaps together. Inside are four Panasonic "C" cell batteries, soldered together in series.

Using half the plastic housing as a jig, I arranged four alkaline "C" cells in the same configuration as the old batteries. I soldered the new batteries together in series and soldered the old wiring harness from the old battery pack to the new one. I snapped the case back together, checked the batteries with my meter to make sure that I had only 6-volts DC, and put the unit back in service.

I feel certain that anyone who has read the Electronic Security articles in *The National Locksmith* can accomplish this type of repair.

Leo Koulogianes
Tennessee

GM Wheel Puller Winner

GM Sidebar Tip

This tip can save both time and money for a locksmith when it comes to defeating the sidebar on a GM trunk lockout or a lost trunk key.

I use a 3/32" drill bit on my cordless drill and drill a hole approximately 1/8" from the inside edge of the scalp on the lock as shown in illustration three.

After bending and grinding a giveaway key ring as shown in the illustration, I insert the pointed end of the modified key ring in the hole and apply a little bit of pressure on the sidebar. That allows me to pick each wafer as the key ring "slides" down the edge of the sidebar.

When the key ring is all the way down, use a keyblank to apply turning pressure to bind the sidebar. Then remove the key ring while continuing the turning pressure until the lock opens.

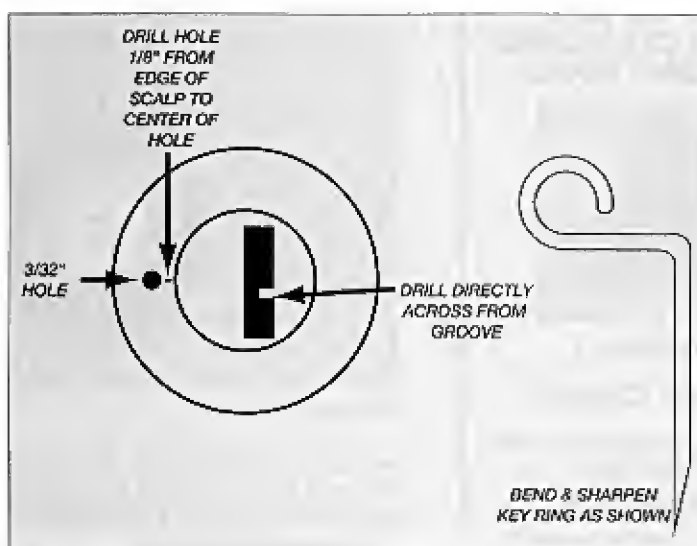


Illustration 3

When drilling your hole, make sure that you drill only deep enough to expose the edge of the sidebar. Once opened you replace the scalp. The entire process should not take you more than five minutes.

Gonzalo Benavides
Texas

Fort Lock Display Board Winner
Opening Without Drilling

This tip is for those of us that cannot pick every lock that we need to open.

The great thing about this idea is that you don't have to drill the lock if you can't pick it. And, it allows

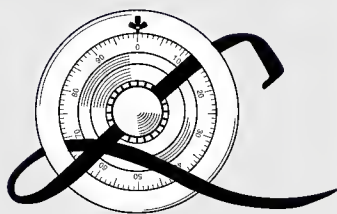
you to determine the "code" if there are other locks keyed the same, or to stay with a keying system.

First, using a Dremel Tool with a cutting wheel, cut a small moon-shaped piece out of the top of the plug, just a little wider than a shim. (See illustration 4.)

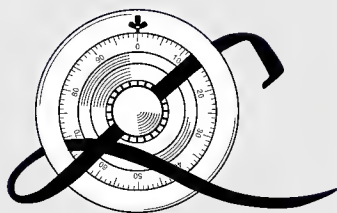
Remove the moon shaped piece

HPC, Inc.
Designing Excellence and Manufacturing Quality since 1956

[Click here for more information](#)



Lockmasters
has a
44 year
history of
training
security
professionals.



[Click here for more information](#)

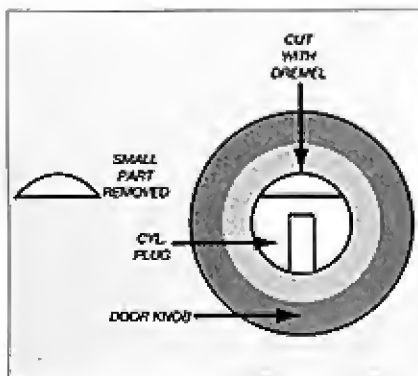


Illustration 4

and reverse shim-pick the cylinder. Remove the lock from the door and decode the plug for a key to open the other locks in the system.

To repair the damage, simply install a new plug using the same pin combination as the old one. Sure beats drilling!

Bob Voorhees
California

TNL Index As Reference Tool

Here is a tip that I find extremely handy.

Since I think that *The National Locksmith's* Year End Index is a valuable reference tool, I make a copy of the index and insert it in a narrow three-ring binder. Keeping the book handy, makes it quick and easy to research those jobs that I need information on.

So, pull out those year-end indexes, find a copy machine and keep those back issues working for you!

John Carty
Massachusetts

Broken Key Extractor

I was called out to extract a broken key from the lock on the door of one of our local stores. I tried several of my extractors but the way the key had broken would not allow me to get a grip on the broken key.

Looking through my tool box, I found my Weiser shim pick. I filed one end to look like a keyhole or drywall saw. (See illustration 5.) With this homemade extractor, I was able to get around the burrs on the broken key and get it out. My other extractors were



Illustration 5

too thick and the Weiser shim pick was about half the thickness of the others.

This got me out of a jam and I hope it can help others just like many tips have helped me in the past.

Mike Verhaeghe
Canada

GM Knockout Remover

Here's a simple tool I made to take the code knockout out of a GM key.

Weld a 5/16" nut to one jaw of a pair of pliers and a pin about 1/2" long and about 1/8" in diameter on the other jaw. (See illustration 6.) This will punch the knockout out of the key very quickly.

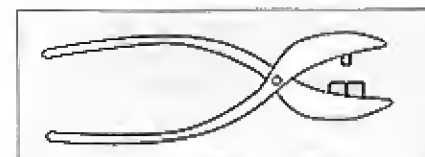


Illustration 6

David Walcott
California

Roll Top Space

Now you see it, now you don't!

Needing more workbench room in my van, I came up with the idea of utilizing an office desk with the spring-loaded, fold-a-way shelf for a typewriter.

By mounting my key machine to the shelf, I can secure it out of sight when not in use, and it is out of the way of much needed work space.

You can find these type desks in second-hand furniture stores, at warehouse sales and at flea markets.

I hope this idea will save someone some space and give them that extra elbow room.

Rob Roberts
California



BITS & PIECES

Informative Tidbits for the Security Industry

CRIME PREVENTION, a new proactive crime prevention tabloid, recently made its debut to the general public. Published by *The National Locksmith*, **CRIME**



by
Tom Seroogy

PREVENTION is designed to increase the awareness of the locksmith as a security professional in the eyes of the public and bridge the link between the locksmith and police.

CRIME PREVENTION's strong showing can be attributed to its list of editorial advisors and writers that include: Detective J.J. Bittenbinder, a nationally recognized crime prevention speaker; Wilbur Rykert, Ph.D., Director of the National Crime Prevention Institute; Jake Jakubowski, locksmith, speaker and freelance writer; Sara Probasco, locksmith, speaker and freelance writer; and Julie Bettinger, freelance writer specializing in crime prevention.

Thus far the publication has been well received by police, locksmiths and the general public. Locksmiths are encouraged to purchase and use **CRIME PREVENTION** as a marketing aid; sending them to customers and prospective customers. For more information, contact: The National Locksmith, 1533 Burgundy Pkwy, Streamwood, IL 60107. Or call 708-837-2044.

State legislation is moving forward in Illinois. Recently, the Allied Locksmiths For Illinois submitted legislation for consideration through the bill's sponsor, Illinois State Representative Robert J. Bugielski. Currently titled House Bill 3687, the bill has quickly accumulated 15 co-

sponsors from both democratic and republican parties.

In light of the national bad press received on home and auto openings and crime committed through the use of locksmith tools, the new law is seen as a new step in protecting the public. The quick and current support by strong leaders from both parties suggest this law may not only pass but may serve as precedent for other states considering locksmith legislation.

The Allied Locksmiths For Illinois is a coalition of Illinois locksmiths and locksmith associations that include the Greater Chicago Locksmith's Association, the Illinois Locksmith's Association, the Illinois/Indiana Locksmith's Association, and the Northern Illinois Locksmith's Association.

Copies of the proposed law are available upon request. Send your requests to the Allied Locksmiths For Illinois, c/o GCLA, 6216 W. North Ave., Chicago, IL 60639. Include \$5 for postage and handling.

I receive calls asking for padlock and locker codes or key specifications for schools and institutions on a regular basis. Unfortunately, these are typically not available. A recent letter (edited for length) from Master Lock Company explains why:

Master Lock Company is a primary supplier of built-in keyed and combination locks for school lockers. With the increasing problems of theft and vandalism in schools, the need for key security and code protection is greater than ever.

To provide this protection, Master Lock uses a database system that registers all key and code numbers,

and provides control charts for the locks purchased by a school. These database records are retained for over 10 years.

Only school administrative personnel, or a Master Lock distributor acting on the school's behalf, may request additional locks, control keys or combination charts for the system from Master Lock.

Due to strict key control procedures, Master Lock does not make key codes or blanks available for school locks.

"We do not provide locker lock combinations, keys or chart requests over the phone or via fax," said Tom Smith, Master's product manager for padlocks. "We have had students call us, pretending to work for a locksmith, and attempt to obtain the information in order to break into lockers," he said.

The only way to obtain the combinations, keys or charts is to submit a request to Master Lock. The request must be submitted either:

- on the school's letterhead (The combinations, keys or charts will be mailed to the school.) or
- through a Master Lock distributor.

To protect the integrity of the locking system a locksmith who is asked to assist in a situation where control charts, keys or combinations have been lost or where locks have been violated, should contact their distributor for additional information.

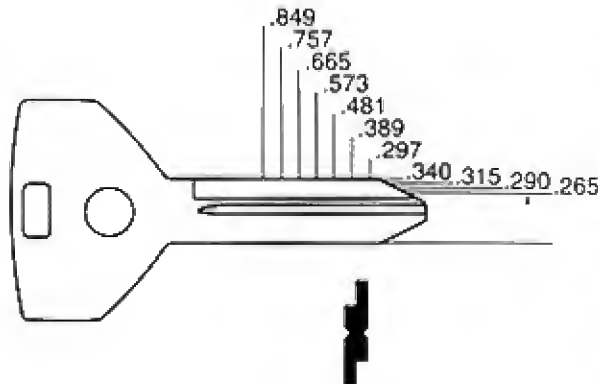
Locksmiths with additional questions about Master Lock's locker locks should contact their distributor.
Continued on page 111



KEY CODES

1994 Chrysler L Series

L0001-L3580, Part 2



Key Profile

HPC 1200CM

Continental Code Card - X60
Cutter - CW1011
Stop - Ford 5-cut Tip Stop

Fanon

Out start - .051
Cut to cut - .092
Cutter - FC8445
Key Clamping - Ford 5-cut
Spacing Clip

Curtis

Cam - Chry 4
Carriage - Chry 4B

KEYBLANKS

B&S 596504
Silca CY22
Curtis Y157
Iico P1794
EZ Y157
Jet Y157

Spacing and Depths using Universal Micrometer Card #58:		
	Spacing	Depth
1	.101	.340
2	.193	.315
3	.285	.290
4	.377	.265
5	.469	
6	.561	
7	.653	

L1791	1121342	L1828	4244212	L1865	4431112	L1902	1213224
L1792	1321331	L1829	2431231	L1866	1321334	L1903	3443212
L1793	1243311	L1830	2213431	L1867	1223231	L1904	3442234
L1794	3232443	L1831	4211313	L1868	1243133	L1905	4321321
L1795	2444223	L1832	4331124	L1869	3124431	L1906	1234443
L1796	3442321	L1833	3234434	L1870	1311343	L1907	4231344
L1797	1131243	L1834	2134224	L1871	1234231	L1908	4334342
L1798	1112342	L1835	4423124	L1872	4433123	L1909	3211324
L1799	3444221	L1836	1342212	L1873	1242443	L1910	4431232
L1800	4422124	L1837	4213313	L1874	1132422	L1911	4334232
L1801	4233121	L1838	4242342	L1875	3234231	L1912	4443323
L1802	4313424	L1839	4311231	L1876	2111342	L1913	4243343
L1803	2434433	L1840	3322243	L1877	1133422	L1914	2324434
L1804	4223313	L1841	4313311	L1878	2131244	L1915	2131224
L1805	3421121	L1842	2434212	L1879	3244224	L1916	4223134
L1806	1333124	L1843	1324234	L1880	2423133	L1917	3132432
L1807	2443112	L1844	2423324	L1881	1331232	L1918	4332443
L1808	2321334	L1845	3433124	L1882	4213224	L1919	1122132
L1809	3221343	L1846	4421134	L1883	2423113	L1920	2442433
L1810	3124321	L1847	3222134	L1884	2124344	L1921	2131242
L1811	4224313	L1848	2132311	L1885	2242331	L1922	3331242
L1812	2132421	L1849	4313322	L1886	3123123	L1923	3223231
L1813	3244211	L1850	1322133	L1887	4213213	L1924	3132212
L1814	4431321	L1851	1212313	L1888	3113123	L1925	1124334
L1815	4223124	L1852	3424312	L1889	3313112	L1926	2132332
L1816	1132421	L1853	4343224	L1890	3231231	L1927	1133224
L1817	2424312	L1854	2323443	L1891	1133234	L1928	2331232
L1818	2312342	L1855	4231321	L1892	3231244	L1929	2442343
L1819	1312212	L1856	1342421	L1893	1312242	L1930	1243231
L1820	1213424	L1857	1344321	L1894	3234224	L1931	1124221
L1821	4342313	L1858	3232231	L1895	1324244	L1932	1131232
L1822	2312432	L1859	2443343	L1896	4423131	L1933	3434221
L1823	2134324	L1860	4321213	L1897	3344322	L1934	4424312
L1824	3432424	L1861	2442123	L1898	3432134	L1935	3324443
L1825	2133242	L1862	4213332	L1899	4442322	L1936	4233432
L1826	2231244	L1863	1244322	L1900	3223424	L1937	2113434
L1827	3243443	L1864	3421134	L1901	4434311	L1938	3131232



Chrysler L Series L0001-L3580, Part 2

L1939	3442221	L1968	3112342	L1997	1334432	L2026	1331134
L1940	3243123	L1969	3122134	L1998	3421131	L2027	4243123
L1941	3133211	L1970	2312431	L1999	2132124	L2028	4334224
L1942	4423313	L1971	1131224	L2000	2131122	L2029	2344334
L1943	1332232	L1972	3132443	L2001	3243113	L2030	3244233
L1944	3134442	L1973	4223431	L2002	2124334	L2031	3424311
L1945	2112421	L1974	2133231	L2003	2131342	L2032	2211323
L1946	2133124	L1975	3342312	L2004	3424422	L2033	1331212
L1947	3342422	L1976	2313112	L2005	2344313	L2034	3122331
L1948	1242113	L1977	3123122	L2006	4212432	L2035	3211213
L1949	2424433	L1978	2443423	L2007	3242311	L2036	1243121
L1950	2134242	L1979	4432122	L2008	3232432	L2037	1324323
L1951	4421334	L1980	2244313	L2009	2133223	L2038	1121224
L1952	3132124	L1981	3231213	L2010	3121223	L2039	2423433
L1953	2444311	L1982	1232131	L2011	1342131	L2040	2234334
L1954	4232443	L1983	1322231	L2012	4432324	L2041	3242133
L1955	1344313	L1984	3113244	L2013	3123121	L2042	2243112
L1956	2311243	L1985	4334234	L2014	3224434	L2043	4213323
L1957	1242313	L1986	4223231	L2015	1244433	L2044	4322434
L1958	2322443	L1987	2321343	L2016	3122231	L2045	1124324
L1959	2244334	L1988	3213421	L2017	1231242	L2046	2442121
L1960	3442232	L1989	1242112	L2018	2444211	L2047	2344324
L1961	2212434	L1990	3334422	L2019	3221331	L2048	4321334
L1962	2212134	L1991	4213432	L2020	2433134	L2049	3242112
L1963	4433211	L1992	1244242	L2021	3121221	L2050	2132112
L1964	2432443	L1993	1121323	L2022	2421311	L2051	2113132
L1965	1234213	L1994	4221113	L2023	1213431	L2052	2444213
L1966	1343244	L1995	3344211	L2024	3213232	L2053	3212134
L1967	2312433	L1996	4213231	L2025	2324313	L2054	4223343

Major
MANUFACTURING, INC.

Installation Tools

The Professionals Choice

[Click here for more information](#)



Chrysler L Series L0001-L3580, Part 2

L2055	3212442	L2119	3124244	L2183	2432432	L2247	3112422
L2056	1124243	L2120	2324334	L2184	2124443	L2248	3222433
L2057	4313124	L2121	1321134	L2185	3224433	L2249	4443332
L2058	1334232	L2122	3233424	L2186	4313113	L2250	4232132
L2059	4431134	L2123	2421133	L2187	4331234	L2251	1112423
L2060	3442132	L2124	2323113	L2188	2134211	L2252	4432221
L2061	4322433	L2125	1334442	L2189	4324312	L2253	1223424
L2062	3432244	L2126	2344331	L2190	2233443	L2254	4313211
L2063	4232243	L2127	3443122	L2191	1242431	L2255	4443213
L2064	4423243	L2128	1321122	L2192	3432231	L2256	2423123
L2065	2244331	L2129	4442231	L2193	1243442	L2257	2234443
L2066	4221324	L2130	3244312	L2194	3312424	L2258	1332224
L2067	3442313	L2131	3323442	L2195	2331242	L2259	1231322
L2068	1132424	L2132	1124234	L2196	2344211	L2260	4442232
L2069	2342131	L2133	3311342	L2197	2243231	L2261	1324433
L2070	2343243	L2134	4331311	L2198	3221244	L2262	4221234
L2071	3422323	L2135	1234334	L2199	1321231	L2263	4234221
L2072	3444322	L2136	2242313	L2200	3112431	L2264	1211324
L2073	2313424	L2137	1242432	L2201	2434421	L2265	2221134
L2074	3132131	L2138	1343324	L2202	3444213	L2266	2442234
L2075	3112312	L2139	4224211	L2203	3344213	L2267	4244322
L2076	1224423	L2140	1223133	L2204	3423324	L2268	3444321
L2077	2133421	L2141	1134324	L2205	4322124	L2269	3442133
L2078	1213242	L2142	3313221	L2206	2334243	L2270	2423134
L2079	3422342	L2143	4342343	L2207	3313424	L2271	2443212
L2080	2431334	L2144	4232332	L2208	4311213	L2272	1243433
L2081	1243342	L2145	4343342	L2209	4231233	L2273	4343211
L2082	4432311	L2146	3321342	L2210	3233242	L2274	1221132
L2083	3324442	L2147	2332434	L2211	4321344	L2275	3224234
L2084	3431213	L2148	3112231	L2212	3421324	L2276	3243431
L2085	4344331	L2149	4243113	L2213	4243133	L2277	3443422
L2086	3223442	L2150	4231244	L2214	1123244	L2278	1134243
L2087	3124313	L2151	1132434	L2215	1312431	L2279	3442113
L2088	2432311	L2152	3421342	L2216	1312324	L2280	2424431
L2089	2312421	L2153	1134212	L2217	1324312	L2281	2312423
L2090	3242342	L2154	1323244	L2218	2122434	L2282	4224321
L2091	4222433	L2155	3124311	L2219	3313124	L2283	4342233
L2092	2312424	L2156	2312434	L2220	2334421	L2284	3234423
L2093	4433213	L2157	1322343	L2221	3421334	L2285	1123243
L2094	1213324	L2158	1243124	L2222	3312432	L2286	2344421
L2095	4233422	L2159	2311313	L2223	4242233	L2287	4423122
L2096	2434231	L2160	3432131	L2224	2243121	L2288	4231124
L2097	3232213	L2161	4433121	L2225	1222134	L2289	1212442
L2098	3134213	L2162	1122424	L2226	2134334	L2290	3234432
L2099	4233324	L2163	2111242	L2227	3422421	L2291	3222434
L2100	2231112	L2164	3432434	L2228	1242343	L2292	2132321
L2101	4331312	L2165	2244231	L2229	4442221	L2293	2313421
L2102	3113122	L2166	3442121	L2230	4442213	L2294	4332421
L2103	4211323	L2167	2423343	L2231	1234433	L2295	3222443
L2104	1323312	L2168	4211132	L2232	2421123	L2296	4334223
L2105	1321132	L2169	3442334	L2233	3434421	L2297	2311342
L2106	2432133	L2170	3213242	L2234	1133124	L2298	3134243
L2107	2433443	L2171	3344224	L2235	2443122	L2299	4433432
L2108	2232443	L2172	2343242	L2236	1231224	L2300	1313242
L2109	1132432	L2173	3313244	L2237	2211132	L2301	3422343
L2110	1324231	L2174	3324324	L2238	4321243	L2302	1224234
L2111	3342243	L2175	4213433	L2239	3221243	L2303	4433221
L2112	2312443	L2176	2331342	L2240	1322433	L2304	1132234
L2113	1234434	L2177	2131134	L2241	2324424	L2305	3213234
L2114	3113434	L2178	4234231	L2242	2231342	L2306	3134424
L2115	4331342	L2179	2432132	L2243	2124312	L2307	1344311
L2116	4212311	L2180	3444323	L2244	3243121	L2308	3422134
L2117	1312313	L2181	3112433	L2245	4223112	L2309	1324421
L2118	2433242	L2182	3133212	L2246	3211243	L2310	4432212



Chrysler L Series L0001-L3580, Part 2

L2311	1112443	L2376	2431212	L2441	3322132	L2506	1113423
L2312	4233421	L2377	4221132	L2442	4434331	L2507	2434332
L2313	3324211	L2378	2234244	L2443	2422311	L2508	1244323
L2314	1321124	L2379	2334443	L2444	4322311	L2509	2443233
L2315	3122431	L2380	3442423	L2445	1213343	L2510	3431113
L2316	3232132	L2381	4311321	L2446	3324243	L2511	2113442
L2317	3121132	L2382	1323421	L2447	2112442	L2512	2422433
L2318	1134344	L2383	4344221	L2448	2213211	L2513	4321313
L2319	3422131	L2384	1112243	L2449	2344232	L2514	3331224
L2320	4442223	L2385	2132134	L2450	1321342	L2515	1223124
L2321	1133342	L2386	3423134	L2451	2344243	L2516	2342121
L2322	2243342	L2387	4231232	L2452	4322431	L2517	2124433
L2323	3344312	L2388	1243112	L2453	4312232	L2518	4224433
L2324	2243312	L2389	2121334	L2454	213.4421	L2519	1112343
L2325	3224231	L2390	3213312	L2455	4442121	L2520	4221121
L2326	2442332	L2391	4243221	L2456	3122213	L2521	3433421
L2327	4431233	L2392	4312212	L2457	4324213	L2522	1324434
L2328	2433132	L2393	2234213	L2458	4334324	L2523	2432213
L2329	1224211	L2394	2433131	L2459	3124342	L2524	2443331
L2330	3124312	L2395	4333122	L2460	1334421	L2525	3421244
L2331	1334344	L2396	3212343	L2461	4334321	L2526	2122311
L2332	4212243	L2397	4312312	L2462	3424334	L2527	4433234
L2333	2123434	L2398	4442312	L2463	1323123	L2528	2324432
L2334	2313342	L2399	2312134	L2464	4324431	L2529	2423131
L2335	3442233	L2400	1112422	L2465	4313243	L2530	2432334
L2336	2221131	L2401	2231234	L2466	3224342	L2531	2443223
L2337	1132224	L2402	2134233	L2467	2332244	L2532	3244213
L2338	3111323	L2403	4313221	L2468	3122421	L2533	4442311
L2339	2322313	L2404	1133122	L2469	4422321	L2534	1224311
L2340	2234442	L2405	4312213	L2470	4334221	L2535	4432322
L2341	3223132	L2406	1221243	L2471	2433442	L2536	1321123
L2342	1231334	L2407	4221124	L2472	4342342	L2537	4344231
L2343	4234322	L2408	1213434	L2473	2313422	L2538	3442242
L2344	1123424	L2409	3242332	L2474	1132443	L2539	2234423
L2345	4434211	L2410	2433231	L2475	4431124	L2540	3334244
L2346	1313223	L2411	1121343	L2476	3123423	L2541	4432332
L2347	3223443	L2412	4223433	L2477	2344242	L2542	2213134
L2348	1123234	L2413	3312443	L2478	4431234	L2543	3443312
L2349	2243123	L2414	4213133	L2479	4443131	L2544	4432224
L2350	4212343	L2415	4343123	L2480	4323443	L2545	1122431
L2351	1132423	L2416	3444332	L2481	3134221	L2546	2442132
L2352	1233124	L2417	3213244	L2482	1243234	L2547	2313442
L2353	1331242	L2418	3131132	L2483	3312422	L2548	4231131
L2354	1134224	L2419	3342131	L2484	1134422	L2549	2431124
L2355	1312323	L2420	3111324	L2485	2433123	L2550	1334434
L2356	2132243	L2421	1222434	L2486	4232312	L2551	4232331
L2357	3124432	L2422	3122133	L2487	4232432	L2552	2132231
L2358	2433311	L2423	2133423	L2488	2224343	L2553	3112324
L2359	3244231	L2424	2113342	L2489	4221344	L2554	4324233
L2360	4434212	L2425	1343122	L2490	4422311	L2555	4243233
L2361	2424331	L2426	4431133	L2491	2132213	L2556	2244233
L2362	4423231	L2427	2323442	L2492	2431342	L2557	1233434
L2363	3442213	L2428	2232131	L2493	1233442	L2558	4323121
L2364	1242233	L2429	1121334	L2494	4234311	L2559	3221344
L2365	2431244	L2430	4431224	L2495	1322323	L2560	1242312
L2366	4433243	L2431	2331311	L2496	4231224	L2561	3322434
L2367	2233134	L2432	2443211	L2497	3442123	L2562	2432344
L2368	4322331	L2433	3244212	L2498	2324421	L2563	2332424
L2369	4422132	L2434	3322442	L2499	3134242	L2564	3423342
L2370	3112243	L2435	4443231	L2500	3133121	L2565	1132433
L2371	1334213	L2436	1242332	L2501	2232431	L2566	3242433
L2372	2334234	L2437	4242331	L2502	1312434	L2567	1332322
L2373	3312442	L2438	4242131	L2503	4432113	L2568	4334431
L2374	4343213	L2439	1113443	L2504	4421211	L2569	4232311
L2375	4313443	L2440	1313213	L2505	2213324	L2570	1213443



Chrysler L Series L0001-L3580, Part 2

L2571	2313221	L2600	4433223	L2629	2312231	L2658	4422391
L2572	1213221	L2601	2311324	L2630	4331322	L2659	2431331
L2573	4421342	L2602	3213223	L2631	2134331	L2660	2434233
L2574	3443134	L2603	3422124	L2632	4313421	L2661	1244212
L2575	3113421	L2604	4432242	L2633	4221134	L2662	3434213
L2576	3422423	L2605	1332243	L2634	2123124	L2663	2124324
L2577	2444321	L2606	3234234	L2635	4344332	L2664	2224344
L2578	1342243	L2607	1344431	L2636	2342423	L2665	3242313
L2579	3121342	L2608	1223132	L2637	1323422	L2666	1324223
L2580	4334312	L2609	4432121	L2638	1344331	L2667	1132124
L2581	1221234	L2610	2443231	L2639	1342313	L2668	4211342
L2582	1133324	L2611	1324342	L2640	4313312	L2669	2132424
L2583	3223213	L2612	1332213	L2641	4431223	L2670	3423132
L2584	3343421	L2613	4224312	L2642	1324324	L2671	3122424
L2585	1113343	L2614	2113431	L2643	2433232	L2672	1332231
L2586	1242244	L2615	3221313	L2644	2443221	L2673	1311323
L2587	3442312	L2616	4232213	L2645	2423442	L2674	2131243
L2588	3134212	L2617	4331134	L2646	3124422	L2675	3233124
L2589	3421132	L2618	1231134	L2647	1322421	L2676	3443131
L2590	4244221	L2619	3243122	L2648	4324331	L2677	4323224
L2591	4443322	L2620	1124422	L2649	3243344	L2678	2113224
L2592	4313212	L2621	2234231	L2650	4234233	L2679	3122113
L2593	3122311	L2622	3342213	L2651	1324423	L2680	1223131
L2594	1134334	L2623	1113324	L2652	2243344	L2681	1313244
L2595	3113424	L2624	3113232	L2653	3311312	L2682	1113232
L2596	2213244	L2625	1243443	L2654	1211343	L2683	4242311
L2597	3442322	L2626	2133443	L2655	4433422	L2684	4431113
L2598	3344342	L2627	3244334	L2656	3444232	L2685	1234423
L2599	1221344	L2628	2131322	L2657	4433242	L2686	1213213

medeco[®]
HIGH SECURITY LOCKS

The market leader
in locking systems for security,
safety, and control.

[Click here for more information](#)



Chrysler L Series L0001-L3580, Part 2

L2687	4232431	L2752	4321244	L2817	3423423	L2882	3111342
L2688	3243312	L2753	3444231	L2818	1134342	L2883	1343242
L2689	3432242	L2754	2444212	L2819	1312443	L2884	2231311
L2690	4234224	L2755	3221312	L2820	2433234	L2885	3134422
L2691	2213434	L2756	3444311	L2821	1322131	L2886	2324324
L2692	4243223	L2757	3443342	L2822	2312331	L2887	3424213
L2693	3223434	L2758	1134421	L2823	2132244	L2888	1213233
L2694	2213423	L2759	3424431	L2824	3132223	L2889	2332344
L2695	1342323	L2760	4242243	L2825	4344212	L2890	2433431
L2696	3432421	L2761	4342131	L2826	4424331	L2891	2134312
L2697	1212431	L2762	3421343	L2827	1244423	L2892	4334243
L2698	4222343	L2763	2213112	L2828	2443432	L2893	4243323
L2699	3322421	L2764	1333121	L2829	1224421	L2894	2221334
L2700	3324234	L2765	2132312	L2830	4224423	L2895	2121323
L2701	1313342	L2766	4324342	L2831	4223213	L2896	4243112
L2702	3224424	L2767	1344312	L2832	1124233	L2897	4211312
L2703	3132121	L2768	3321244	L2833	2444331	L2898	2131133
L2704	2434224	L2769	1113442	L2834	1224331	L2899	3122442
L2705	3124234	L2770	4443133	L2835	1132431	L2900	1243242
L2706	2244332	L2771	3443243	L2836	4221231	L2901	4313213
L2707	4323422	L2772	1232244	L2837	3421133	L2902	1313443
L2708	1322213	L2773	3234242	L2838	1323124	L2903	2131234
L2709	2213123	L2774	4332432	L2839	3113221	L2904	4443321
L2710	4323442	L2775	4342212	L2840	2331224	L2905	3132132
L2711	2334434	L2776	3423223	L2841	3342442	L2906	1231332
L2712	2434211	L2777	4223123	L2842	4434233	L2907	1311242
L2713	1342242	L2778	3424233	L2843	3313211	L2908	4312331
L2714	2423323	L2779	2422431	L2844	3213432	L2909	2123132
L2715	2113133	L2780	4234243	L2845	2424423	L2910	2311332
L2716	2133434	L2781	4432422	L2846	2331312	L2911	4322421
L2717	1332134	L2782	2434331	L2847	4233134	L2912	2424323
L2718	2334344	L2783	1331312	L2848	3342421	L2913	2131124
L2719	3443112	L2784	1244331	L2849	1213232	L2914	4323342
L2720	3312421	L2785	4423342	L2850	1342224	L2915	1332432
L2721	3421321	L2786	1343344	L2851	3231232	L2916	4312322
L2722	1242442	L2787	4422343	L2852	3243423	L2917	3133242
L2723	1124432	L2788	4322243	L2853	2231124	L2918	3133124
L2724	4432134	L2789	2213311	L2854	4343212	L2919	2244431
L2725	4213311	L2790	4312124	L2855	4424223	L2920	1311232
L2726	3124334	L2791	2243432	L2856	3222431	L2921	3323244
L2727	3243131	L2792	4342224	L2857	1332434	L2922	4323213
L2728	2423321	L2793	4432421	L2858	2243134	L2923	3422431
L2729	2233131	L2794	2344423	L2859	1323221	L2924	4232131
L2730	3243442	L2795	4321124	L2860	2312243	L2925	3231242
L2731	4421132	L2796	2134332	L2861	2431311	L2926	4342243
L2732	4433431	L2797	3121343	L2862	3431211	L2927	4342121
L2733	1232442	L2798	4213423	L2863	2342231	L2928	1231324
L2734	2443224	L2799	4322424	L2864	4213322	L2929	3324432
L2735	1332312	L2800	1222131	L2865	4242112	L2930	2112343
L2736	2132331	L2801	3224213	L2866	3243311	L2931	3344212
L2737	3124221	L2802	3242234	L2867	4213434	L2932	2312123
L2738	2313324	L2803	4422123	L2868	4313123	L2933	2244343
L2739	2113324	L2804	2234342	L2869	3422213	L2934	4242211
L2740	2442124	L2805	2433224	L2870	2434324	L2935	2342324
L2741	3213434	L2806	3312431	L2871	4224334	L2936	4333244
L2742	4231311	L2807	3123112	L2872	2124313	L2937	2113234
L2743	4213331	L2808	4433232	L2873	1322443	L2938	2431132
L2744	4233434	L2809	4244233	L2874	1234234	L2939	2442213
L2745	2311331	L2810	4231122	L2875	2112133	L2940	2243313
L2746	3234213	L2811	4213234	L2876	3113231	L2941	4233124
L2747	4232234	L2812	3123442	L2877	2134322	L2942	4233224
L2748	3423131	L2813	2132432	L2878	3421323	L2943	2134422
L2749	4433342	L2814	2133244	L2879	3443123	L2944	2311232
L2750	4213113	L2815	1244223	L2880	2434213	L2945	4431131
L2751	3324311	L2816	3211342	L2881	4212134	L2946	1124433



Chrysler L Series L0001-L3580, Part 2

L2947	1322311	L2976	3431134	L3005	3321344	L3034	2423312
L2948	3422324	L2977	3231224	L3006	3131123	L3035	1344421
L2949	1313322	L2978	2121124	L3007	3434224	L3036	2234312
L2950	1221124	L2979	4432133	L3008	1211323	L3037	4233243
L2951	4344312	L2980	1312243	L3009	3213211	L3038	2334213
L2952	3344431	L2981	3242443	L3010	1344343	L3039	1224324
L2953	3244311	L2982	4243234	L3011	4423423	L3040	3421332
L2954	1113342	L2983	2134433	L3012	2243334	L3041	1334234
L2955	3112434	L2984	3344321	L3013	4224332	L3042	1224443
L2956	3244243	L2985	2434423	L3014	4422112	L3043	1342133
L2957	1124244	L2986	1321332	L3015	3223131	L3044	2231213
L2958	3442112	L2987	3223113	L3016	2342244	L3045	4224331
L2959	2221313	L2988	4332231	L3017	3443423	L3046	4334212
L2960	3123243	L2989	3232442	L3018	4244331	L3047	2123131
L2961	4432232	L2990	4312231	L3019	1312213	L3048	4322313
L2962	4332424	L2991	2321331	L3020	4533421	L3049	4313223
L2963	3442122	L2992	3423422	L3021	3324431	L3050	2124432
L2964	4323124	L2993	1132312	L3022	2434432	L3051	4231132
L2965	3242244	L2994	2133324	L3023	3342423	L3052	1334224
L2966	2243244	L2995	3422434	L3024	1221343	L3053	2334324
L2967	3112123	L2996	3231211	L3025	3234243	L3054	2122134
L2968	4424233	L2997	2213312	L3026	1221213	L3055	4343312
L2969	3113134	L2998	3431244	L3027	3133221	L3056	1231244
L2970	1322134	L2999	1343311	L3028	1121244	L3057	3242243
L2971	4234234	L3000	2342442	L3029	1312321	L3058	4211213
L2972	1242344	L3001	2344332	L3030	2342132	L3059	1244432
L2973	3442324	L3002	4243131	L3031	2242344	L3060	2233442
L2974	1133132	L3003	2422134	L3032	1321322	L3061	2443113
L2975	2434312	L3004	1331234	L3033	2421344	L3062	4313244

NATIONAL

AUTO LOCK SERVICE, INC.

National Auto Lock Service, Inc. offers a wide range of equipment and services for the Automotive Locksmith. From tools and hard to find key blanks to transponder programming, we can take the mystery out of car service. We accept credit card orders, and can ship COD. Contact us for the latest in automotive technology.

www.laserkey.com



Chrysler L Series L0001-L3580, Part 2

L3063	3424433	L3128	1324224	L3193	1334244	L3258	2113313
L3064	1332442	L3129	2332421	L3194	4431211	L3259	2134231
L3065	4432112	L3130	4223443	L3195	4243321	L3260	1244334
L3066	2342134	L3131	1133244	L3196	2421113	L3261	2223313
L3067	1223443	L3132	2423124	L3197	3234424	L3262	4431242
L3068	2212431	L3133	4342231	L3198	2112324	L3263	3421234
L3069	4244232	L3134	1134233	L3199	4322133	L3264	4233131
L3070	4442331	L3135	1322132	L3200	4212231	L3265	1343223
L3071	4222313	L3136	3443221	L3201	4224234	L3266	3123342
L3072	1232344	L3137	1331221	L3202	4334423	L3267	4212112
L3073	3431242	L3138	3213132	L3203	1321234	L3268	4342134
L3074	4221213	L3139	4331121	L3204	4222311	L3269	2431123
L3075	4221311	L3140	3423231	L3205	1342332	L3270	3132224
L3076	2331324	L3141	3134244	L3206	4231334	L3271	2421131
L3077	2342431	L3142	4232434	L3207	3212243	L3272	3132231
L3078	1222343	L3143	4332312	L3208	2432423	L3273	2444232
L3079	2121344	L3144	3134234	L3209	3133442	L3274	3424231
L3080	2134221	L3145	3442211	L3210	4421123	L3275	2211312
L3081	3334442	L3146	4311313	L3211	3121243	L3276	2431322
L3082	1342431	L3147	1212343	L3212	2311312	L3277	4213324
L3083	4433113	L3148	1244343	L3213	4324334	L3278	4213221
L3084	4442233	L3149	2213442	L3214	2312132	L3279	3124233
L3085	3433242	L3150	4423324	L3215	1231321	L3280	2442113
L3086	3434423	L3151	2113213	L3216	3122342	L3281	4443212
L3087	2313321	L3152	1234224	L3217	2442112	L3282	2434232
L3088	2343342	L3153	4232244	L3218	4344223	L3283	1122442
L3089	1334223	L3154	1332431	L3219	2121343	L3284	3234244
L3090	1124442	L3155	3212313	L3220	2433112	L3285	4442113
L3091	3231234	L3156	3223431	L3221	3132112	L3286	1231331
L3092	1224313	L3157	4312113	L3222	4331112	L3287	3344221
L3093	3124323	L3158	1324431	L3223	1224213	L3288	2213213
L3094	2331231	L3159	2423421	L3224	3342124	L3289	1121324
L3095	4332243	L3160	4421223	L3225	4311324	L3290	4312424
L3096	2134424	L3161	4234321	L3226	1123124	L3291	1332324
L3097	4233424	L3162	2311242	L3227	1131334	L3292	2443313
L3098	1324311	L3163	2132443	L3228	4234422	L3293	1224434
L3099	4443331	L3164	4243213	L3229	4233112	L3294	2432244
L3100	1343443	L3165	2434431	L3230	2312343	L3295	4242134
L3101	1344324	L3166	3124243	L3231	3242344	L3296	2122313
L3102	1211242	L3167	4222431	L3232	1342312	L3297	3434231
L3103	3313421	L3168	3131231	L3233	2342433	L3298	4443211
L3104	3244234	L3169	2322431	L3234	4243212	L3299	3424211
L3105	2431112	L3170	3442431	L3235	4213124	L3300	4331232
L3106	3134231	L3171	1131244	L3236	2421313	L3301	4423211
L3107	2234432	L3172	4312323	L3237	1323121	L3302	3111332
L3108	4431212	L3173	4233442	L3238	3122124	L3303	4213122
L3109	3213243	L3174	3133422	L3239	2332443	L3304	2432433
L3110	1213422	L3175	3421312	L3240	1211322	L3305	2323312
L3111	2424332	L3176	1134242	L3241	4343113	L3306	2231312
L3112	2422331	L3177	4231113	L3242	1311243	L3307	1121322
L3113	3424324	L3178	1242334	L3243	3124424	L3308	4424213
L3114	4312134	L3179	2133121	L3244	2111343	L3309	2243343
L3115	3211343	L3180	4433131	L3245	1323223	L3310	3134423
L3116	3244321	L3181	4223113	L3246	3122313	L3311	2423424
L3117	3213424	L3182	3232244	L3247	1324443	L3312	3122132
L3118	4443312	L3183	1323443	L3248	2342443	L3313	1124342
L3119	4344313	L3184	2442233	L3249	4224432	L3314	4223423
L3120	4243242	L3185	2423132	L3250	1223244	L3315	4324231
L3121	2121324	L3186	3124231	L3251	1134312	L3316	1234421
L3122	3122434	L3187	2231131	L3252	2432342	L3317	4221332
L3123	3431132	L3188	1124313	L3253	2244421	L3318	4243311
L3124	3121332	L3189	4342324	L3254	2113423	L3319	4234433
L3125	4424311	L3190	2122443	L3255	3243432	L3320	2442131
L3126	2342312	L3191	3134431	L3256	4313442	L3321	3312423
L3127	3342342	L3192	4334322	L3257	4243134	L3322	2442334



Chrysler L Series L0001-L3580, Part 2

L3323	1312332	L3388	2112213	L3453	3242131	L3518	2421334
L3324	3123113	L3389	1233134	L3454	3212132	L3519	1324432
L3325	4421122	L3390	2444322	L3455	1313424	L3520	4334311
L3326	3242343	L3391	2243423	L3456	2442313	L3521	1321343
L3327	2443324	L3392	2311212	L3457	2244324	L3522	1242433
L3328	4311331	L3393	4223131	L3458	3224443	L3523	3113442
L3329	2343113	L3394	2342334	L3459	1321324	L3524	5312231
L3330	2422343	L3395	4421131	L3460	4242332	L3525	2334424
L3331	1243244	L3396	3224431	L3461	2234434	L3526	3121134
L3332	2442431	L3397	4432123	L3462	2133312	L3527	2421134
L3333	2121132	L3398	3423244	L3463	2431131	L3528	3422312
L3334	2123442	L3399	2243443	L3464	4233342	L3529	1331223
L3335	2131132	L3400	2344321	L3465	3112124	L3530	1322442
L3336	1334311	L3401	3312243	L3466	2431122	L3531	1312432
L3337	3211132	L3402	2431234	L3467	2132324	L3532	2444313
L3338	2133112	L3403	4231134	L3468	1324422	L3533	3422231
L3339	2124434	L3404	2431242	L3469	4312311	L3534	4432433
L3340	3223243	L3405	3244332	L3470	4422324	L3535	1233131
L3341	1213223	L3406	3123424	L3471	3324224	L3536	3342431
L3342	1232312	L3407	3322431	L3472	4433231	L3537	4321343
L3343	2423112	L3408	1221334	L3473	1312442	L3538	2334224
L3344	2443131	L3409	4431331	L3474	2432134	L3539	4321224
L3345	2431133	L3410	1321224	L3475	4343243	L3540	3322424
L3346	2331131	L3411	1134213	L3476	2113443	L3541	4213233
L3347	2431224	L3412	3443113	L3477	3132422	L3542	1344232
L3348	4213421	L3413	1332342	L3478	2343244	L3543	4213232
L3349	1243232	L3414	2244342	L3479	2444323	L3544	1231212
L3350	2434221	L3415	2423342	L3480	3131244	L3545	3133421
L3351	4421243	L3416	2134342	L3481	2224334	L3546	2331124
L3352	4213132	L3417	1243331	L3482	4434312	L3547	1342344
L3353	4234334	L3418	1322431	L3483	2442321	L3548	4313342
L3354	2232311	L3419	1243312	L3484	2433122	L3549	4312432
L3355	3344232	L3420	3134232	L3485	2333242	L3550	2421331
L3356	3431243	L3421	3234421	L3486	2132131	L3551	3234431
L3357	3421243	L3422	3321134	L3487	2134243	L3552	1343422
L3358	3133112	L3423	2211313	L3488	4431322	L3553	3313122
L3359	3422433	L3424	3432224	L3489	3112323	L3554	1213244
L3360	3113124	L3425	4342113	L3490	2442421	L3555	2244243
L3361	3344432	L3426	3444313	L3491	1332132	L3556	2443332
L3362	1242342	L3427	3113132	L3492	3243244	L3557	2112313
L3363	3422443	L3428	1342322	L3493	4331324	L3558	2244321
L3364	4432233	L3429	3122423	L3494	1332242	L3559	4221321
L3365	1331324	L3430	4213442	L3495	2133243	L3560	4421234
L3366	4343311	L3431	3213224	L3496	3422313	L3561	1132242
L3367	2422313	L3432	4324324	L3497	1221134	L3562	2223434
L3368	4421213	L3433	3122324	L3498	2311343	L3563	1313224
L3369	2133232	L3434	1343312	L3499	2431223	L3564	3423432
L3370	2432312	L3435	1223434	L3500	4423234	L3565	1211342
L3371	3234422	L3436	2133442	L3501	3112421	L3566	2242311
L3372	2311321	L3437	1131223	L3502	4331242	L3567	2132334
L3373	2433422	L3438	2133431	L3503	2344224	L3568	4223132
L3374	1212443	L3439	2244211	L3504	1331321	L3569	1334431
L3375	2424313	L3440	4234223	L3505	2132433	L3570	1333421
L3376	4224323	L3441	1234211	L3506	4321312	L3571	1122421
L3377	4322443	L3442	3111243	L3507	3133244	L3572	1113422
L3378	3232431	L3443	4212443	L3508	1231124	L3573	1344212
L3379	1331231	L3444	2434311	L3509	4243121	L3574	2443422
L3380	4332324	L3445	2432431	L3510	1342124	L3575	3434232
L3381	3242312	L3446	4231133	L3511	1243113	L3576	3213112
L3382	4312112	L3447	3113224	L3512	2344343	L3577	3423213
L3383	1122134	L3448	2433121	L3513	3112122	L3578	3221334
L3384	1313422	L3449	3123213	L3514	4433312	L3579	4431332
L3385	3233244	L3450	2234234	L3515	2434334	L3580	3433424
L3386	4344233	L3451	2443321	L3516	3442223		
L3387	4343223	L3452	1244231	L3517	4423323		



LOCKSMITH AND CCTV

Continued from page 46

the unlikely event that fraudulent entry should occur, a video record of the visitor and the identification presented exists on the video tape.

These are a few selling points a locksmith might use in marketing CCTV to his customers. I'm sure there are others, for those interested in pursuing this line of security work.

When interviewed on March 19, Greg was going in for surgery the following Monday. We sincerely wish the best for him and hope that he is on the road to full recovery by the time he reads this.

If you ever have an opportunity to visit Greg, be sure to ask him about the tiger—a full-sized replica, complete with sound effects and glowing eyes that one customer installed on a winding road to a secluded mansion.

Imagine a night service call and standing outside in the dark, knocking frantically at the front door, while your hair stands on end!



THE LIGHTER SIDE

Continued from page 56

do one other thing for me?" the man asked.

"Sure thing," I replied, and I listened to his request.

When Ted was ready to leave, the next morning, I said, "By the way, you need to stop by the florist and take a rose with you."

Ted spun around to look at me. "Do what?" he asked.

"You're supposed to take a rose with you to the job, this morning." I tried to keep a straight face. "The florist has it ready for you to pick up. It's for your customer."

"Won't he think that's a bit peculiar?" Ted asked drolly.

"Actually, he ordered it to give it to his daughter." I couldn't help admitting.

"Since when are we operating a

floral delivery service?" Don asked.

"Since I told him Ted would bring it out to him. The man is still house-bound. There's no way he could come to town after it, and the florist doesn't deliver, that far out. Ted was going anyway, so why not?"

"I guess you're right," Don said with a glint in his eye. "After all, Ted makes house calls, and some customers tell us he has a wonderful 'lockside manner.'" Mischievously, Don cut his eyes over to see if Ted was listening. "It seems only appropriate that he deliver flowers to the 'patient,' as well."

Suddenly, Don's face lit up. "Hey, that's it. We've been looking for a new advertising gimmick. Why don't we put a sign in the window on Wednesdays and Fridays, that says, 'The Doctor Is In?'"

Don rubbed his hands together in glee. "Just think," he chortled, "this could add a whole new dimension to Clinton's proposed health care program!"



**Make Sargent & Greenleaf's
Comptronic locks your choice for
electronic safe locking solutions.**

[Click here for more information](#)

BITS & PIECES

Continued from page 99

New Keys Available

Silea: FT500-C for Fichet. Update of the FT500. changes include solid brass with precuts.

The HYN7R(AP) primary and HYN8R valet keys for 1995 Hyundai Sonata. And for the new Mazda Millenia use TOY40AP keyblank used for Lexus.

Jet: The AB3 and AB4 for Abus. The DIE-3 for Diebold. The PR7 for Prefer. The R59 for Tesa. And the IAIN1-NS and IAITB1-NS for Best. The new version Best blanks are approximately 5/16" longer allowing them to work with all Best cores with armored covers, Best car seals, and double lock out safety padlocks.

All-Lock: 94FD and 94FA for 1994 Ford 10-cuts. And the P94CH and P94CA for the 1994 Chrysler and Jeep.

CLASSIFIED ADVERTISING

Rates are 65¢ per word (including name and address), \$13.00 minimum. All classified advertisements must be paid in advance. No checking proof supplied.

Box numbering and forwarding, \$5.00 extra per ad. To order, send the complete text of your ad, along with a check or money order to:

Classified Department
The National Locksmith
1533 Burgundy Parkway
Streamwood, IL 60107


DISPLAY CLASSIFIED ADS

are now available for placement in our Classified Ads. Cost is \$60 per inch. Contact Jeff Adair or Debbie Schertzing at (708) 837-2044 or fax at (708) 837-1210 to order a Display Classified.

A recent service bulletin from General Motors states that the 1993 and 1994 Camaro and Firebird are having exterior door panel problems. According to the release, the edge of the panel on the latch side of the door can separate from the rest of the door. The fiberglass door and panels are bonded at the seams. The splitting is caused from improper bonding during manufacturing.

While this problem is under warranty, be on the lookout for problems and complaints. Locksmiths should inspect the doors for this problem before and after opening or servicing these doors. Be prepared for a few call backs or complaints from

customers complaining that "you destroyed the door."

Refer your customer back to a local dealer who can correct the problem at no charge to the customer. 

	For removal of headless screw steering column bolts Magnetic - Notched spines 5 size bits Handle storage
\$19.95	
\$2.50 shipping	WEDGECO
Visa - Master call 1-800-452-2304	
SPECIAL	
Reg 14.95	AUTOMOBILE WINDOW WEDGE AND DOOR PANEL REMOVAL TOOL
\$9.95	
WEDGECO	\$2.50 Shipping
VISA/MASTER 1-800-452-2304	



SCHWAB CORP.

Fire protection for your vital records.

Free freight!!
No middle man!!

[Click here for more information](#)

SHOP TALK

Helpful questions and answers

Shop Talk answers readers questions on any locksmith related topic. Only letters judged to be of general interest will be published. We regret that we cannot answer individual letters. Because of the volume of mail, only those questions answered in the magazine will receive answers. Send your questions to Shop Talk, The National Locksmith, 1533 Burgundy Parkway, Streamwood, IL 60107.

In response to a question by Ralph Waugh on finding old auto lock and key parts (*The National Locksmith*, March '94, page 96), Dana Prouty of Massachusetts writes back:

"Ralph or anyone else interest in Model A Ford locks and keys should purchase the video made by Cal Allan,

392 E. Campbell Rd., Chandler, Arizona 85225.

Call is not a locksmith, he is a Model A restorer and is very knowledgeable about Model A locks and keys. The video is \$25 and well worth it."

Thanks, Dana!

Q: *I've seen several references lately to shimming locks open. What is meant by shimming?*

*Ed Hamm
Illinois*

A: The physical characteristic of almost locks, Ed, both pin tumbler and wafer, is that in order to turn the

plug, all of the tumblers must align at a shearline. Many times the lock can be picked or a key impressioned. Other times, however, we need to turn the plug to service the lock for rekeying or repair and picking and impressioning have not worked. One method has been to "shim" the lock open. To do this (for most applications) a very thin and sometimes curved piece of material, called a shim, is inserted between the housing or shell and the plug of the lock along the shearline. When the shim reaches a tumbler a pick or uncut key is used to push the tumbler up to the shearline. The shim is then pushed between the top and bottom tumbler until it reaches the next one

SRI
SECURITY
RESOURCES INC.

**SRI and Tech Train Productions are
the automotive specialists - your best
source for automotive tools,
manuals, and videos.**

[Click here for more information](#)

where the same procedure is followed. Because the shim blocks the tumbler from crossing the shearline, once all chambers are shimmed, the plug can turn.

This same procedure can be done on wafer locks as well. In this instance, however, the tumbler is pulled below the shearline allowing the shim to pass over it.

Q: *On General Motor cars with airbags, we've been taught that there is a backup power supply for the airbag in case the battery is sheared from the vehicle during an accident. According to standard procedure the battery, must be disconnected for at least 15 minutes to deplete the power supply before servicing the airbag or column.*

Many times, however, I get to a customer, usually dealers, who state that the car has not been run for more than a day, and in some cases, weeks. Is it then okay to service the column without disconnecting the battery?

*Sid Levit
Nebraska*

A: Maybe yes, and maybe no, Sid. It depends on how much you like to gamble.

In every GM airbag equipped vehicle there is a Diagnostic Energy Reserve Module (DERM), that acts as a supplemental power supply to the airbag in case the battery is disconnected during a collision. This module is powered up at the ignition "ON" position, and holds a charge for up to 15 minutes after being returned to the "OFF" position.


Technically, a DERM that has sat in the ignition "OFF" state for more than 15 minutes will not be charged and it should be safe to work on the vehicle. Notice I say "should."

The correct procedure for servicing a GM airbag is to disconnect the negative and then the positive cables from the battery, wait 15 minutes, remove the Supplemental Inflatable Restraint system (SIR) fuse from the fuse panel, remove the Connector Position Assurance (CPA) clip from the steering column coil assembly lower connector (found behind the

driver side knee bolster), disconnect the steering column coil assembly lower connector, then remove the airbag module. This procedure is taught by Peter Von Schwedler, GM STG (Service Technology Group) instructor.

While this procedure seems to be much more complicated and involved than necessary, it was developed for two very simple reasons - Safety and Liability.

Now, as I see it, if a large corporation like GM, who has lots of money, assets and attorneys, feels this procedure is necessary to protect their best interests and the interests of those that use and maintain the system; then why should I, who has little money and assets, and no attorney, take a risk by veering from the manufacturer's procedure.

In many cases it is both necessary and feasible to take short cuts. In cases involving the degree of safety and liability that the airbag requires, however, short cuts aren't worth the risk. 



STRATTEC™

***The world's largest producer of
automotive locks and keys.***

[Click here for more information](#)

TEST DRIVE



Taking Industry Products for a Spin Around the Block

AABLE'S FORD QUICK-ON

PRODUCT: Aable Locksmiths Ford Quick-On. The \$65.00 Quick-On is sold direct to locksmiths from Aable Locksmiths, 91-10 Liberty Ave., Ozone Park, NY, 11417 or phone 718-847-1377.



1. The Ford Quick-On by Aable Locksmiths.

PRODUCT DESCRIPTION: The Quick-On is a force tool designed for the easy removal and replacement of the Ford 10-cut ignition with sidebar.

PRODUCT SPECIFICATIONS: Over the last few years the Quick-On has been modified from a one piece socket with centering keyblade into a two piece socket with a separate, rotating centering keyblade. This unit is used to turn the Ford 10-cut ignition to the "ON" position by creating enough torque to shear the sidebar. The Quick-On can be used on Ford 10-cut ignitions with sidebar. Some exceptions include Taurus and Sables whose plugs have a dark green appearance. Material designs in these locks don't allow the Quick-On to work well and they should be drilled.

FRIENDLINESS: Quick-On is extremely easy to use, with one caution: read and follow the instructions carefully. To use the unit is simply a matter of removing the ignition facecap, mounting the Quick-On onto the face of the plug, and turning. If this is not done correctly, subsequent tool damage can occur.

FEATURES: This newest version of the Quick-On tool comes with two separate pieces. The centering keyblade that once used to be held into the socket using a set screw, is now a separate piece held in the socket using a ballbearing/detent setup. This design allows the keyblade to

freely rotate 360 degrees in either direction, indexing correctly when the ball bearing is saddled in the detent. Adding this feature reduces the risk of damaging the tool should it strip from



2. Setting the Quick-On in place.

the face of the plug.

To use the tool, the ignition facecap is pried off the lock, exposing the face of the plug. Aligning the centering keyblade of the tool with the keyway of the plug, the Quick-On is placed over the face of the plug. At this point it is important to keep the square with the face of the lock.

Then, using a hammer, pound the

socket flat over the face of the plug. Two tabs on the socket will pierce the edge of the plug's face. With the socket secure, use a 7/8" wrench to turn the plug to the "ON" position.

It's important that the two tabs of the socket properly pierce the face of the lock



3. Turning the ignition.

and that the socket is fully seated against the face of the lock. If it is not, there is a tendency for the socket to tip off of the face and spin off the lock, breaking the centering keyblade or the tabs.

Once the plug has turned the ignition can be removed.

COMMENTS AND SUGGESTIONS: After using the Quick-On on several ignitions, we found it fast, easy and effective. We did find that there is a tendency to tip the socket one way or the other while trying to turn it, but was easily preventable. The move to making the the centering keyblade rotate in the tool was good planning. It was easy to see how the blade could break should the socket slip or tilt. While adding two more tabs to the front of the socket may help stabilize the tool, the design of the lock face does not permit this.

CONCLUSION: The Ford Quick-On is a good alternative for servicing many of the Ford 10-cut ignitions. It is fast and effective and, unlike drilling methods, there is no mess to clean up after service is complete.



DESCRIPTION:
Ford 10-cut removal tool.

COMMENTS:
Faster and easier than drilling.

TEST DRIVE RESULTS:
Offers a good alternative to servicing the Ford 10-cut ignition, with no mess to clean up after you're finished.