

## **BUMPING OF LOCKS: LEGAL ISSUES IN THE UNITED STATES**

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The information contained in this report appears as part of a comprehensive treatment of bumping in the 2006 version of *LSS+*, the Multimedia Edition of *Locks, Safes and Security*. The author may be contacted at +1.605.334.1155 or [mwtobias@security.org](mailto:mwtobias@security.org).

There are legal issues that may arise from the creation, sale, distribution or improper use of bumping tools and bump keys, including the prosecution for certain criminal offenses under federal or state laws. There is also potential liability for insurance companies, locksmiths, and the private business sector. Government agencies, prosecutors, facilities managers, insurance carriers and lock manufacturers may wish to pay close attention to the possible proliferation of bump keys because of the security vulnerabilities created by their improper or illegal use. The following brief summary of issues may warrant further consideration.

### **CRIMINAL LIABILITY**

There can be state and federal criminal sanctions for trafficking in pre-cut bump keys or for the possession or misuse of keys in combination with bumping tools such as the tomahawk or its replicas.

#### **Sale of bumping tools and pre-cut bump keys**

The threat from this bypass technique significantly changes and escalates if pre-cut bump keys for specific keyways readily available. Already, there are web sites that are offering a combination of bumping tools and keys that are code-cut to many popular commercial and consumer keyways. If the sale of such implements is allowed then bumping of locks may take on a much more onerous nature and places more individuals and facilities at risk because less skill is required to open a lock.

The author, having spent many years in the investigation and prosecution of criminal conduct, is specifically concerned about the commercial manufacture and sale of the combination of bump tools and pre-cut keys to other than locksmiths, locksmithing students, legitimate researchers, and government agents. In the wrong hands, these implements only have one use: crime. Such items can enable the commission of burglaries, the sabotage of facilities, mail theft, invasion of privacy, theft of information, robbery

and other offenses. Because bumping offers a rapid and potentially covert method of entry, the author would advocate a proactive stance on the part of police, prosecutors and affected government agencies as well as legislators and lock manufacturers to insure that this technology is not commercially available to criminals.

### **Federal Statutes**

We note several relevant federal statutes: **18 USC 1704 (Keys or locks stolen or reproduced)**, **Title 18, Section 83 USC 1716A** and **39 USC 3002(a) (Nonmailable locksmithing devices and motor vehicle master keys)**, and **39 USC 3002(Nonmailable motor vehicle master keys)**. **19 USC 1583 (c)(1)(E) (Examination of outbound mail)** allows for the opening of packages that are sent in violation of **Section 1716A**. There are other federal provisions in **18 USC 1386 (Keys and keyways used in security applications by the Department of Defense)** that would apply to the illegal possession, copying or distribution of keys for Department of Defense facilities. The full text of these statutes appears in the Appendix to this document.

### **Post Office Regulations**

The postal statute, **83 USC 1704**, makes it a federal crime to improperly utilize, sell or traffic in keys that will open post office locks. Anyone that possesses a bump key that fits a post office box and which demonstrates criminal intent would be criminally liable. The Post Office utilizes restricted keyways and should be considered in a different category than standard conventional cylinders because of the specific statutes as well as the privacy and security issues involved. Trafficking in bump keys for federal or private mailbox keyways should be illegal and the statutes should be strictly enforced.

Section **39 USC 3002(a)** of the Postal regulations prohibits the sending of lock picking and bypass tools by mail to other than locksmiths, lock manufacturers or distributors, car manufacturers or dealers, or a vehicle reposessor. Law enforcement agencies may not be sent bypass tools according to the statute, which obviously was not its intent.

Section **18 USC 1716A** makes it a crime to send any materials defined in **39 USC 3002(a)** through the mail or interstate commerce by common carrier such as Federal Express or UPS.

This statute did not contemplate, and appears to specifically exempt bump keys from its purview. Section **39 USC 3002(a)** is vague and essentially unenforceable as presently written because it does not define the term "locksmith." It is an old statute that was enacted to address issues that may no longer be relevant today. Its primary purpose was to prohibit the sale of tryout keys to the public for motor vehicles. Section **39 USC 3002** is not applicable to bump keys.

In the view of the author, **39 USC 3002(a)** should be rewritten and rationally enforced to prevent the sale of bypass tools, including pre-cut bump keys, to those not qualified to purchase them. Its exceptions should be expanded to include law enforcement agencies and bona fide locksmithing students and researchers to receive such implements. It should be noted that neither Section **3002(a)** or **18 USC 1716A** prevent the **purchase** of such tools; only their sale and transmission through interstate commerce. Some state statutes also regulate the sale or possession of such items.

It is interesting to note that the Postal Service has no authority to regulate the security of private mail delivery agents, such as Mail Boxes Etc. There is no oversight to protect the public when they choose to have their mail delivered to commercial locations. Based upon the findings that both public and private mailboxes were subject to bumping, perhaps there should be.

The author recognizes the legitimate need for locksmiths, locksmithing students, researchers, law enforcement, manufacturers and government agencies to be able to purchase bypass tools including bumping tools and pre-cut keys. The problem is the definition of locksmith, which can encompass a wide range of legitimate activities. Professional certification, as proposed by Homeland Security and ALOA does not really address this issue because security professionals, risk managers, information technology professionals, researchers, and certain students have a legitimate interest in such tools and technology but will not receive certification. Additionally, not all locksmiths are or will be certified. A better definition must be established that protects the public and improves physical security.

#### **State and Local Statutes**

Many jurisdictions have enacted laws dealing with the possession or sale of locksmithing tools. While individual state statutes are too numerous to cite, suffice it to say that it may be illegal to possess or sell bump keys and tools in these jurisdictions unless the owner falls within statutory exceptions which generally apply to locksmiths. These laws generally require proof of criminal intent which must be inferred from the facts and circumstances of each case. A brief review highlighting several state jurisdictional statutes appears at the conclusion of this analysis. In many states, the mere possession of bypass tools will be sufficient to secure a conviction if criminal intent can be shown. In other jurisdictions, intent may be negated if the individual is a licensed locksmith.

It would be unreasonable and impossible to prevent an individual that is studying his own locks from doing so. Academic researchers analyzing security issues should also be permitted to conduct such inquiries. A person that is bumping his own lock would probably not be subject to the provisions of such statutes so long as a reasonable connection could be shown between the possession of bump keys for a specific keyway and ownership or authorized use of such locks with that same keyway.

However, if an individual had, for example, a large number of keys for different lock manufacturers and keyways, then such factors may bring such conduct under the purview of a criminal statute, absent certain exceptions. Likewise, if an individual is observed late at night standing in front of a door and is in possession of a bump key for the keyway of the lock and a bumping tool, then criminal intent may be inferred, subjecting that individual to criminal liability for possession of burglary tools and other offenses.

### **Insurance Claims and Coverage**

A lock that is opened by bumping may not show any forensic indicia of such attack. This can prove troublesome for insurance companies, especially if there is a "mysterious disappearance" exception within the policy. A carrier may refuse coverage for unexplained loss or inventory shortage if there is no proof of entry, as is the case in many European countries. Two issues are raised: insurance companies may be liable for refusing to pay legitimate claims where a lock was opened by bumping but there was no

forensic trace, and fraud may increase by persons attempting to claim losses based upon covert entry, blaming it on an attack by bumping. Policyholders should check with their insurance carriers to determine the limits of coverage.

### **Locksmith Liability**

A locksmith should never cut a bump key unless it is for someone that would have a legitimate reason to possess or use such a key. This would include other locksmiths, security professionals, risk managers, testing facilities, instructors, and government agents. If a locksmith were to knowingly provide bump keys to an individual who did not have a legitimate use, then the locksmith could potentially be held accountable both in civil and criminal venues, and such conduct would also constitute a violation of the code of conduct of ALOA.

### **Facilities Liability**

The potential legal liability of a facility that has installed locks that can be opened by bumping is neither clear nor straightforward. A large percentage of the non-high security pin tumbler locks in the United States can potentially be opened by bumping. That is a physical fact that is based upon an inherent design issue common to all of these mechanisms. At the outset, then, a facility would not have any liability for negligence if someone suffered an injury or economic loss as the result of the compromise of its locks. However, the paradigm may shift once management has notice that the locks may be easily compromised. Failure to upgrade their security could lead to liability, based upon perceived risk. Again, a number of variables discussed previously would have to be considered in making such a determination.

### **Manufacturers Liability**

The author believes that manufacturers have no liability for any product that employs standard pin tumbler design and which can be opened by bumping. However, this statement is not without caveat. If a manufacturer produces a lock that can be easily and immediately opened in a manner that does not strictly rely upon the principal of physics discovered by Newton and discussed in this document, then there indeed may be liability for defective product. If,

for example, a lock can be opened in two seconds by simply applying torque to the plug and rapping on a key, such a problem may give rise to a claim for defective product. Each case would have to be judged on its merits to draw such a conclusion.

The real problem is that almost all conventional pin tumbler locks are subject to bumping by their inherent design, and all manufacturers have the same problem. Little can be done to prevent the practice. Although they may install anti-bumping technology, this would come at a higher price and would probably be an option for the consumer to consider if offered by a specific vendor. The answer is to purchase more secure locks, preferably high security locks, which have been tested for their resistance to bumping.

### **Summary and Comments**

The author believes in the value of research and the analysis of locking mechanisms and security technology, (both physical and logical) for bypass vulnerabilities and design defects by the widest possible group of individuals. This would include both expert and amateur and from diverse and non-related fields. The design engineers employed by manufacturers can miss critical vulnerabilities and in the experience of the author, sometimes have. In certain cases simple bypass techniques have been discovered and reported by members of amateur sport lock picking clubs or by academic researchers. When such defects and vulnerabilities are found, their discovery helps everyone because products are either fixed or they do not survive in the marketplace. Either way, the public benefits from the increased security.

The current attention that is being paid to bumping is almost solely the result of amateur sport lock picking groups in the Netherlands and Germany. **Toool** was established by a cryptograph expert who subsequently became interested in locks and developed certain expertise in the subject. Their work will ultimately make locks more secure and will surely alert the public and manufacturers to risks that they did not know existed.

To prohibit the lawful use of such tools would not serve the interests of either the private sector or government in their quest to increase the security of locks and associated hardware. The real issue is the improper use of

such tools, which becomes a great deal more difficult to define and regulate. It is suggested that there is no legal distinction between the possession and use of a lock pick, pick gun or other bypass tool and a bump key, but the danger from its use may be greater.

It is obviously impossible to control or prevent the manufacture or sale of bumping tools, just as it would be futile to regulate screwdrivers that can make excellent bumping instruments. Likewise, there is no way to limit the sale or access to blank keys, or for that matter, files to cut bump keys. It all turns on the use for which they are put as well as when and where they are employed.

The author doubts that any legitimate locksmith would cut a bump key for other than another locksmith, security professional or government agent. Outside of this limited audience, laws restricting the trafficking in bump keys may be necessary.

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## APPENDIX: STATUTORY CITES

### Federal Statutes

#### **18 USC 1386. Keys and keyways used in security applications by the Department of Defense**

**(a)**

**(1)** Whoever steals, purloins, embezzles, or obtains by false pretense any lock or key to any lock, knowing that such lock or key has been adopted by any part of the Department of Defense, including all Department of Defense agencies, military departments, and agencies thereof, for use in protecting conventional arms, ammunition or explosives, special weapons, and classified information or classified equipment shall be punished as provided in subsection (b).

**(2) Whoever—**

**(A)** knowingly and unlawfully makes, forges, or counterfeits any key, knowing that such key has been adopted by any part of the Department of Defense, including all Department of Defense agencies, military departments, and agencies thereof, for use in protecting conventional arms, ammunition or explosives, special weapons, and classified information or classified equipment; or

**(B)** knowing that any lock or key has been adopted by any part of the Department of Defense, including all Department of Defense agencies, military departments, and agencies thereof, for use in protecting conventional arms, ammunition or explosives, special weapons, and classified information or classified equipment, possesses any such lock or key with the intent to unlawfully or improperly use, sell, or otherwise dispose of such lock or key or cause the same to be unlawfully or improperly used, sold, or otherwise disposed of, shall be punished as provided in subsection (b).

**(3)** Whoever, being engaged as a contractor or otherwise in the manufacture of any lock or key knowing that such lock or key has been adopted by any part of the Department of Defense, including all Department of Defense agencies, military departments, and agencies thereof, for use in protecting conventional arms, ammunition or explosives, special weapons, and classified information or classified equipment, delivers any such finished or unfinished lock or any such key to any person not duly authorized by the Secretary of Defense or his designated representative to receive the same, unless the person receiving it is the contractor for furnishing the same or engaged in the manufacture thereof in the manner authorized by the contract, or the agent of such manufacturer, shall be punished as provided in subsection (b).

(b) Whoever commits an offense under subsection (a) shall be fined under this title or imprisoned not more than 10 years, or both.

(c) As used in this section, the term "key" means any key, keyblank, or keyway adopted by any part of the Department of Defense, including all Department of Defense agencies, military departments, and agencies thereof, for use in protecting conventional arms, ammunition or explosives, special weapons, and classified information or classified equipment

## **18 USC 1704. Keys or locks stolen or reproduced**

Whoever steals, purloins, embezzles, or obtains by false pretense any key suited to any lock adopted by the Post Office Department or the Postal Service and in use on any of the mails or bags thereof, or any key to any lock box, lock drawer, or other authorized receptacle for the deposit or delivery of mail matter; or

Whoever knowingly and unlawfully makes, forges, or counterfeits any such key, or possesses any such mail lock or key with the intent unlawfully or improperly to use, sell, or otherwise dispose of the same, or to cause the same to be unlawfully or improperly used, sold, or otherwise disposed of; or

Whoever, being engaged as a contractor or otherwise in the manufacture of any such mail lock or key, delivers any finished or unfinished lock or the interior part thereof, or key, used or designed for use by the department, to any person not duly authorized under the hand of the Postmaster General and the seal of the Post Office Department or the Postal Service, to receive the same, unless the person receiving it is the contractor for furnishing the same or engaged in the manufacture thereof in the manner authorized by the contract, or the agent of such manufacturer—

Shall be fined under this title or imprisoned not more than ten years, or both.

## **18 USC 1716A. Nonmailable locksmithing devices and motor vehicle master keys**

(a) Whoever knowingly deposits for mailing or delivery, or knowingly causes to be delivered by mail according to the direction thereon, or at any place to which it is directed to be delivered by the person to whom it is addressed, any matter declared to be nonmailable by section [3002](#) of title [39](#), shall be fined under this title or imprisoned not more than one year, or both.

(b) Whoever knowingly deposits for mailing or delivery, causes to be delivered by mail, or causes to be delivered by any interstate mailing or delivery other than by the United States Postal Service, any matter declared to be nonmailable by section [3002a](#) of title [39](#), shall be fined under this title, imprisoned not more than one year, or both.

## **19 USC 1583. Examination of outbound mail**

(c) **Search of mail sealed against inspection weighing in excess of 16 ounces**

(1) **In general**

Mail weighing in excess of 16 ounces sealed against inspection under the postal laws and regulations of the United States may be searched by a Customs officer, subject to paragraph (2), if there is reasonable cause to suspect that such mail contains one or more of the following:

(E) Merchandise mailed in violation of section [1715](#) or [1716](#) of title [18](#).

## **39 USC 3002. Nonmailable motor vehicle master keys**

(a) Except as provided in subsection (b) of this section, any motor vehicle master key, any pattern, impression, or mold from which a motor vehicle master key may be made, or any advertisement for the sale of any such key, pattern, impression, or mold, is nonmailable matter and shall not be carried or delivered by mail.

(b) The Postal Service is authorized to make such exemptions from the provisions of subsection (a) of this section as it deems necessary.

(c) For the purposes of this section, "motor vehicle master key" means any key (other than the key furnished by the manufacturer with the motor vehicle, or the key furnished with a replacement lock, or any exact duplicate of such keys) designed to operate 2 or more motor vehicle ignition, door, or trunk locks of different combinations.

## **39 USC 3002a. Nonmailability of locksmithing devices**



(a) Any locksmithing device is nonmailable mail, shall not be carried or delivered by mail, and shall be disposed of as the Postal Service directs, unless such device is mailed to—

(1) a lock manufacturer or distributor;

(2) a bona fide locksmith;

(3) a bona fide reposessor; or

(4) a motor vehicle manufacturer or dealer.

(b) For the purpose of this section, "locksmithing device" means—

(1) a device or tool (other than a key) designed to manipulate the tumblers in a lock into the unlocked position through the keyway of such lock;

(2) a device or tool (other than a key or a device or tool under paragraph (1)) designed for the unauthorized opening or bypassing of a lock or similar security device; and

(3) a device or tool designed for making an impression of a key or similar security device to duplicate such key or device.

### **State Statutes (Washington DC, Delaware, Arizona, Nevada, New York, and California)**

#### **Washington DC Section 22-2501:**

##### **§ 22-2501. Possession of implements of crime; penalty.**

No person shall have in his or her possession in the District any instrument, tool, or implement for picking locks or pockets, with the intent to use such instrument, tool, or implement to commit a crime. Whoever violates this section shall be imprisoned for not more than 180 days and may be fined not more than \$1,000, unless the violation occurs after he or she has been convicted in the District of a violation of this section or of a felony, either in the District or another jurisdiction, in which case he or she shall be imprisoned for not less than one year nor more than 5 years.

#### **Delaware TITLE 11. PART I. CHAPTER 5. SUBCHAPTER III. SUBPART B. CRIMINAL TRESPASS AND BURGLARY**

##### **§ 828 Possession of burglar's tools or instruments facilitating theft; class F felony.**

A person is guilty of possession of burglar's tools or instruments facilitating theft when the person possesses any tool, instrument, or other thing adapted, designed, or commonly used for committing or facilitating:

(1) Offenses involving unlawful entry into or upon premises;

(2) Offenses involving the unlocking, overriding, or disabling of a security device without authorization; or

(3) Offenses involving forcible breaking or opening of safes, vending machines, automatic teller machines, lock boxes, gates, doors or any container or depositories of property, under circumstances evincing an intent to use or knowledge that some other person intends to use the same in the commission of an offense of such character.

(4) The offense of identity theft, such as a credit card, driver license or other document issued in a name other than the name of the person who possesses the document.

Possession of burglar's tools or instruments facilitating theft is a class F felony.

### **ARIZONA**

##### **§ 13-1505. Possession of burglary tools; master key; manipulation key; classification**

A. A person commits possession of burglary tools by:

1. Possessing any explosive, tool, instrument or other article adapted or commonly used for committing any form of burglary as defined in sections 13-1506, 13-1507 and 13-1508 and intending to use or permit the use of such an item in the commission of a burglary.

2. Buying, selling, transferring, possessing or using a motor vehicle manipulation key or master key.

B. Subsection A, paragraph 2 of this section does not apply to a person who either:

1. Uses a master key in the course of the person's lawful business or occupation, including licensed vehicle dealers and manufacturers, key manufacturers who are engaged in the business of designing, making, altering, duplicating or repairing locks or keys, locksmiths, loan institutions that finance vehicles and law enforcement.

2. Transfers, possesses or uses no more than one manipulation key, unless the manipulation key is transferred, possessed or used with the intent to commit any theft or felony.

C. Possession of burglary tools is a class 6 felony.

## **Nevada Revised Statutes: Chapter 205- Crimes against property**

### **NRS 205.080 Possession of instrument with burglarious intent; making, alteration or repair of instrument for committing offense; penalty.**

1. Every person who makes or mends or causes to be made or mended, or has in his possession in the day or nighttime, any engine, machine, tool, false key, picklock, bit, nippers or implement adapted, designed or commonly used for the commission of burglary, invasion of the home, larceny or other crime, under circumstances evincing an intent to use or employ, or allow the same to be used or employed in the commission of a crime, or knowing that the same is intended to be so used, shall be guilty of a gross misdemeanor.

2. The possession thereof except by a mechanic, artificer or tradesman at and in his established shop or place of business, open to public view, shall be prima facie evidence that such possession was had with intent to use or employ or allow the same to be used or employed in the commission of a crime.

## **Nevada Revised Statutes: Chapter 655- Locksmiths and Safe Mechanics**

**NRS 655.020 "Key" defined.** "Key" means a mechanical device used for operating a lock and includes, but is not limited to:

1. A change key or a key designed to operate a specific lock.
2. A manipulation key or a key designed so that when variously positioned in the keyways of locks will operate the locks.
3. A master key or a key designed to operate a series of locks which are individually operated by change keys.
4. A tryout key or a key that will operate a series of locks in a larger series of locks.

**NRS 655.030 "Lock" defined.** "Lock" means a mechanical device furnished with a spring and a bolt or with a similar contrivance used for fastening a door, strong box or other object and opened by means of a key or combination.

**NRS 655.040 "Locksmith" defined.** "Locksmith" means a person whose occupation consists, in whole or in part, of:

1. Making, repairing or adjusting locks; or
2. Operating locks by mechanical means other than those intended by the manufacturers of the locks.

**NRS 655.070 Permit: Requirement; investigation; issuance; renewal; report of change of address.** 1. Every person who wishes to operate as a locksmith or safe mechanic must obtain a permit from the sheriff of the county in which his principal place of business is located.

## **NEW YORK PENAL CODE**

### **§ 140.35 Possession of burglar's tools.**

A person is guilty of possession of burglar's tools when he possesses any tool, instrument or other article adapted, designed or commonly used for committing or facilitating offenses involving forcible entry into premises, or offenses involving larceny by a physical taking, or offenses involving theft of services as defined in subdivisions four, five and six of section 165.15, under circumstances evincing an intent to use or knowledge that some person intends to use the same in the commission of an offense of such character. Possession of burglar's tools is a class A misdemeanor.

## **NEW YORK ADMINISTRATIVE CODE**

**§20-298 Definitions.** Whenever used in this subchapter, the term "locksmith" shall mean a person dealing in the mechanical actions, and the correct operations of all locks, key or keyless, or similar devices, and whose trade or occupation is repairing, servicing, installing, inspecting, opening and closing such locks by mechanical means, other than with the regular key made for the purpose, without altering, marring or destroying the original condition or effectiveness of such locks or similar devices in any shape or manner, or a maker or manufacturer of locks, pressure keys, skeleton keys, pass keys, jigs, or any other mechanical device to aid a locksmith in the plying of his or her trade.

## **CALIFORNIA PENAL CODE**

**§6980.10.** No person shall engage within this state in the activities of a **locksmith** as defined in subdivision (j) of Section 6980, unless the person holds a valid **locksmith** license, is registered pursuant to the provisions of this chapter, or is exempt from the provisions of this chapter.

**§466.** Every person having upon him or her in his or her possession a picklock, crow, keybit, crowbar, screwdriver, vise grip pliers, water-pump pliers, slidehammer, slim jim, tension bar, lock pick gun, tubular lock pick, floor-safe door puller, master key, ceramic or porcelain spark plug chips or pieces, or other instrument or tool with intent feloniously to break or enter into any building, railroad car, aircraft, or vessel, trailer coach, or vehicle as defined in the Vehicle **Code**, or who shall knowingly make or alter, or shall attempt to make or alter, any key or other instrument named above so that the same will fit or open the lock of a building, railroad car, aircraft, vessel, trailer coach, or vehicle as defined in the Vehicle **Code**, without being requested to do so by some person having the right to open the same, or who shall make, alter, or repair any instrument or thing, knowing or having reason to believe that it is intended to be used in committing a misdemeanor or felony, is guilty of a misdemeanor. Any of the structures mentioned in Section 459 shall be deemed to be a building within the meaning of this section.

**§466.1.** Any person who knowingly and willfully sells or provides a lock pick, a tension bar, a lock pick gun, a tubular lock pick, or a floor-safe door puller, to another, whether or not for compensation, shall obtain the name, address, telephone number, if any, date of birth, and driver's license number or identification number, if any, of the person to whom the device is sold or provided. This information, together with the date the device was sold or provided and the signature of the person to whom the device was sold or provided, shall be set forth on a bill of sale or receipt. A copy of each bill of sale or receipt shall be retained for one year and shall be open to inspection by any peace officer during business hours.

Any person who violates any provision of this section is guilty of a misdemeanor.

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