THE IMPACT OF KEY CONTROL ON CAMPUS SAFETY & SECURITY

By Tony Seep

Safety and security on campus environments has become a significant concern for education officials. Today’s campus administrators are under constant pressure to secure their facilities, and to provide a safe educational environment – and to do so in the midst of mounting budgetary constraints. Functional influences such as rising student enrollment, changes in the ways education is conducted and delivered, and the size and diversity of the educational facilities all contribute to make the task of securing a campus facility increasingly challenging. Keeping faculty, administrative staff, and the students their schools are entrusted to educate safe, is now a much more complex and time consuming endeavor for campus administrators.

A broad range of solutions are available to administrators searching for ways to meaningfully elevate their campus safety and security programs. Innovations in technology have made it possible for schools to acquire security solutions that may previously have been out of reach due to cost or infrastructure restraints. State-of-the-art enhancements such as integrated camera and alarm monitoring systems, electronic door access control, visitor identification database applications, and emergency communication platforms are just a few of the options available to campus security or facility administrators looking to add layers to their safety and security programs. Yet, while all of these newer, more high-tech applications are invaluable additions to the campus environment, the cornerstone to any truly effective campus safety and security program is still the mechanical key system. A mechanical solution is still the most economical means of access control through non-common entries, for securing most offices and classrooms, and for base building locations such as electrical rooms and utility closets. Mechanical cylinders are also frequently used for higher priority locations that have electronic access, but where a mechanical override is needed.
While all of these newer, more high-tech applications are invaluable additions to the campus environment, the cornerstone to any truly effective campus safety and security program is still the mechanical key system.

However, conventional mechanical systems have a number of deficiencies, making them inherently difficult to manage and maintain. This can be particularly challenging for a campus security or facility administrator striving to implement a sound safety and security program. A mechanical key system serves as the foundation of a fully realized campus safety and security program, and therefore should not be overlooked when security upgrades are considered.

A well designed key system is perfect the day it is installed. However, because day-to-day operation involves the continual interaction of locks, keys, and key holders which all change over time, the system can degrade quickly. Keys are cut and distributed, but no records are made to document these transactions. Locks are changed ad-hoc to accommodate a transition of personnel or office function, and inconsistencies are created in the key system organization and design. Key system records – if they exist at all – are often manually administered from a single location, resulting in inefficiency and causing discrepancies in the system data. And, lacking any viable alternative, a complete system replacement is required if a master key is lost or stolen. These are issues that challenge any organization managing a conventional key system.

They are especially daunting to a college campus administrator who may be responsible for managing a system with hundreds of keyed locations, and potentially thousands of keys and key holders. The complex and continually evolving nature of college campus environments exposes the need for a mechanical key system solution that will enable campus facility administrators to achieve key control. In simple terms, the concept of key control may be understood as knowing definitively at any point how the doors in a key system are locked, how many keys there are, who has the keys, and what those keys open. Key control is therefore accomplished with a mechanical key system that enables the end user has such knowledge. Conventional mechanical key systems have inherent flaws that prevent end users from knowing definitive information about their system and, subsequently, establishing key control.

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A technical analysis of conventional mechanical key system solutions uncovers four common problems:

1. Control over unauthorized key duplication and distribution.

Most mechanical key systems do not provide effective control of unauthorized key duplication and distribution. Keys are either non-restricted, leaving them vulnerable to unauthorized duplication, or they are not uniquely identifiable, making it impossible for the system Owner to know definitively how many keys exist within the system or to track them. Some key systems offer patent restricted key blanks, which for a period of time solves the issue of unauthorized key duplication and distribution. However, patent restriction by itself cannot provide key control. Without the means to uniquely track the lifecycle of the keys within a key system, there is simply no way for the system Owner to efficiently and accurately monitor key distribution or duplication.

Some manufacturers offer to individually serialize key blanks as a value added feature at an additional cost. But such serialization is done after the point of manufacture, and the Owner then becomes responsible for managing the inventory of serial numbers within the system. Such key blank identification is helpful, but does not ultimately establish control over the distribution of keys within the system because the lifecycle of a key blank does not trace an origin back to the manufacturer. The common safeguard designed into many mechanical key systems to regulate unauthorized key duplication and distribution is the patented keyway.

However, while certainly effective in helping to provide some control over unauthorized key duplication and/or distribution, even patented keyways cannot completely eliminate these issues. Patents will eventually expire, leaving a key system vulnerable to unauthorized key duplication. Additionally, control over distribution from the point of manufacture is typically enforced by

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restricting the sale of key blanks to authorized dealers within certain geographies, with no means to track sets of blanks or even individual blanks to any specific dealer. Lacking unique identifying marks, keys cannot be tracked by the manufacturer to enforce distribution agreements.

2. Absence of an economical rekey avenue.
One of the primary drawbacks of mechanical key systems is that they are by nature rigid in design and function. When a system is built, available codes are allocated to designated doors or groups of doors (denoted by DHI) and these locations become ‘fixed’ within the system. If any location requires a change due to lost keys or a transition of the location to some other position in the key system hierarchy, the lock must be manually altered by a technician. This process is often time consuming and costly – exponentially more so if the change required involves the loss of a Master key. In the worst case scenario of a lost Master level key, the system Owner is faced with the sudden and unexpected dilemma of replacing the entire key system. This involves both a very tangible expense in materials (the locks and keys themselves), and a less tangible – yet still very real and often surprisingly high – administrative expense and burden associated with the re-assigning of new keys to the key holders. These two factors often combine to cause a system Owner to neglect or all together ignore the problem due to budget and time restraints, thereby compromising security.
3. Attention to key system records.
With most mechanical offerings, the management of key system records is relegated to the system Owner, with little or no support from the manufacturer. All well designed mechanical key systems begin with records detailing the mathematics and hierarchical organization of the locks that will secure the access points of a given environment, and the keys that will operate them. Such records exist at the point a system is produced, and may or may not be delivered to the Owner with the materials of the key system. But access to, and use of, these records is vital.

System integrity, accuracy, and expansion are all dependent upon records established at installation, and maintained throughout the lifecycle of a mechanical solution. Many manufacturers offer a software platform for use in managing key system records. However, the responsibility for entering and maintaining system data in these records management applications falls largely to the system Owner. Additionally, because most of the key tracking software offerings available are stand-alone programs intended to be loaded onto specific computers within the system Owner’s organization, access to the system records becomes computer-specific.

This is problematic in relation to support for operation and maintenance of the key records software, and of the key system records that software stores. With a stand-alone application, software updates must be externally provided, creating administrative burden. The loss of one or more of the computers with key system records data impairs the ability for the system Owner to maintain the integrity of the key system, resulting in compromised system security and stability.

4. Assistance with program policy and management.
Mechanical key systems have traditionally been built and delivered to the Owner, and it is then the Owner’s sole responsibility to manage and maintain the system. Integral to the management and maintenance of any key system are the policies and procedures that must be put into place to ensure ongoing system integrity and stability. Larger system Owners may utilize internal personnel designated to monitor and service the system, or they may rely on an outsourced system maintenance provider. However, support and guidance on program policy and procedure directly from the manufacturer is typically not available.

This is something of a contradiction, as the manufacturer, by virtue of being a vendor in the security marketplace, is in a unique position to be able to provide the Owner with assistance on best practices in policy and procedure. However, the efforts made by mechanical key system manufacturers to help a system Owner learn from others is negligible, and the Owner is subsequently left to his or her own to enact and enforce key system policy and procedure. A mechanical key solution that addresses these deficiencies is needed to enable Campus Facility Administrators to better manage locks and keys.

About the Author: Tony Seep is National Account Sales Manager for InstaKey Security Systems. InstaKey® Security Systems of Lakewood, Colorado, has spent 25 years developing a solution that addresses the challenges inherent in mechanical keyed access, and enables Campus Facility Administrators to achieve key control.
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