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Unsafe Gun Safes Can Be Opened By A Three-Year Old



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Cybersecurity

I am an investigative attorney and physical security specialist.

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Americans love their guns, and every day someone in the U.S. is either shopping for or buying a gun safe. Small gun safes have become popular as an alternative security system for protecting both weapons and valuables, even though Federal law requires some sort of lock to be provided with every gun sale.



The author and his team used a variety of simple implements to open these safes, including... [+]

You should know how unsafe these gun safes are. Both small and large gun safes are sold at all major sporting goods stores and on-line retailers, including [Walmart](#), [Cabelas](#) (37 stores), [Scheels](#) (24 stores), and [Dicks Sporting Goods](#) (450 stores). These safes typically cost \$75-\$200 depending upon manufacturer, retail outlet, container size and alleged “sophistication and method of locking.” There are three leading brands that are sold by these retail outlets: [Stack-on](#), [GunVault](#), and [Bulldog](#).

These products, their manufacturers and their vendors are the subject of this article because of [a tragic death of a three year old](#) in Vancouver, Wash., which at least in part could be directly due to what we believe was the security-defective design of a gun safe produced by Stack-On. In the interest

of full disclosure, our Security Lab was asked for assistance to determine if there was a design problem with a specific model of safe that was involved in the shooting. We agreed to provide expert analysis and testimony as a public service to the victim's family; the parents were a police officer and student nurse. They have allowed us to tell the story and release videos of different containers and how easily they can be compromised because they do not want anyone else to suffer the same nightmare.

We are providing a [detailed report and analysis](#) of eleven different popular gun safes produced by Stack-On, GunVault, and Bulldog to warn the public of the dangers inherent in some of these products because the manufacturers nor their major retailers will do so. In that report you can view eight different Stack-On models, one produced by Bulldog, and one manufactured by GunVault. A similar design defect is demonstrated in an inexpensive safe for storing valuables that is sold by [AMSEC](#), a very reputable safe manufacturer in the United States. Unfortunately, their digital safe with their claim of a “state-of-the-art electronic lock” can also be opened (literally) by a three year old because of a common mechanism used in the industry that is subject to circumvention.

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Watch the video, in which a three year old is shown opening four different safes, three produced by Stack-On and one made by AMSEC. Then read the whole story below.

closet of his master bedroom. One of his service weapons was locked in the safe on the evening of September 14, 2010.

Detective Owens had four children one of whom was three years old at the time of the shooting. At approximately 9:55 P.M. he and his wife were in the garage of the home when they heard what could have been a gun shot. Seconds later, their eleven year old daughter came downstairs and complained that Ryan had slammed the door to the bedroom and that her ear hurt. Kristie, Ed's wife ran upstairs and found Ryan on the floor with a gunshot wound. Four hours later, he died in the emergency room.

While it was clear that one of the children had managed to open the Stack-On safe, the forensic investigation conducted by the local police department failed to perform critical tests at the scene and so it could not be determined whether this was an accidental shooting or Ryan was shot by one of his siblings.

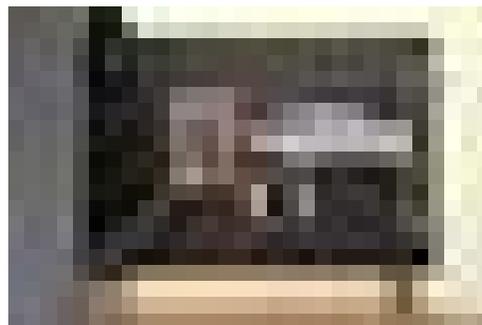
A thorough Internal Affairs and criminal investigation was conducted by the Department and Ed Owens was cleared. Information then began to surface from other officers and individuals within the department that these safes had mechanical problems that allowed them to be easily opened. Similar safes with the same mechanism had been the subject of an action by the Consumer Product Safety Commission on November 10, 2004, wherein 1320 of them had been recalled by Stack-On. This was the second time that Stack-On ran into trouble with the CPSC.

Ed Owens began voicing concerns about the security of these containers and that every other officer within the Department might be at risk. As a result, he was subsequently fired after fifteen months for allegedly violating department policies. He filed a wrongful termination lawsuit against Clark County in June, 2012 in which he alleges that the Department was well aware of the defects in the Stack-On safes and had received other reports of the ability to easily open them, and that he was fired for speaking publicly about the issue.

The Sheriff's Department paid about \$36 for each Stack-On Safe. Their analysis of the mechanisms of these safes after the shooting incident clearly indicated that the lead investigating officer had little to no expertise in determining the problem and how these safes could have been opened by a three year old, or other members of the family.

An unknown number of the original safes are still in use by the Department. Since being shown a simple method to open their safes by elevating them a few inches off a hard surface (like a shelf in a closet) then dropping them, the Sheriff's Office has recently modified its policy and now require that the safes must be mounted, but they have not removed them from service. Approximately 400 of these safes are being used in Clark County.

We first figured out what was wrong with the suspect safe by using a high-speed video camera mounted inside the container as the mechanism was bounced. What we discovered caused us enough concern to expand our inquiry to virtually all of the Stack-On models of similar safes, and those produced by other manufacturers as well.



This photograph show the critical element in many of these safes: a solenoid that retracts or... [+]

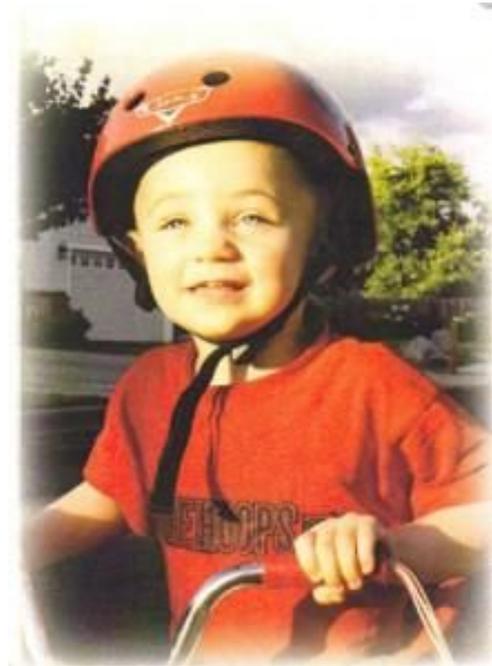
What we found in all of these designs was typical: all of the safes that are detailed in our report can be opened with a variety of simple implements and techniques. These included bouncing and rapping, paperclips, wires, drinking straws, screwdrivers, and brass strips that can be purchased from a hardware store. Ironically the three year old son of one of our team succeeded in opening two different Stack-On models and one AMSEC property safe. Watch the video of little Toby, the three year old who was able to open two different Stack-On safes, and one AMSEC. His two year old was able to open another one of the Stack-On gun safes as well.

THREE YEAR OLD TOBY OPENS DIFFERENT GUN SAFES.WMV



Eddie Ryan Owens: November 27, 2006-September 15, 2010

The story begins in January 2003 in Vancouver, Washington, when the ten year old daughter of a Clark County Deputy Sheriff was accidentally shot and killed by her brother who had his father's department-issued handgun. As a result, the Sheriff's Department instigated a new policy that all department-issued weapons had to be secured in gun safes. With no apparent expertise in security containers, and absolutely no analysis of different gun safes for security the Department purchased of about 200 Stack-On Strong Box models in 2003 and 2004. The Equipment Committee was bypassed on the purchase decision. Detective Ed Owens, the father of Eddie Ryan, was issued a safe which was placed in the



Three year old Eddie Ryan Owens died of a gunshot wound after his father's weapon was removed from a... [+]

they would react. Wrong again. They finally issued the following statement after several months:

“Walmart is committed to providing safe, quality products customers can rely on. After being made aware of your concerns, we reached out to the manufacturer of Stack-On products to discuss their compliance and quality programs. According to Stack-On, the product you mentioned is tested by a third party independent lab and those results are submitted to the California Department of Justice for certification as meeting their safety standards for this category of products.”

Walmart continues to sell these safes because Stack-On says they are secure, relying upon “third party testing labs” and the Department of Justice in California. The videos we provided to Walmart are demonstrative and easy to instantly understand with regard to the security issues. I would have thought that Walmart would have initiated its own investigation because of their liability and the danger potential to its customers.

I have had discussions about the DOJ standards with [Office of Attorney General in California](#) in the past in connection with gun locks. I have also met with senior crime lab personnel for DOJ who were on the standards committee. Those standards are woefully inadequate and do not address any of the issues that we found in any of the gun safes that we tested. If the Standards do not cover a method of entry, then they are meaningless.

I contacted Kent Kelsey, the General Counsel for Cabelas, headquartered in Sydney, Nebraska and had a detailed discussion with him regarding our findings and furnished his company with all of our videos. He indicated that he clearly understood the liability of any vendor that would continue to sell such products. I have attempted to call and email him several times since our discussions but the company has refused to respond and will not issue a statement. They continue to sell what we believe are defective products.

OWENS CASE-THREE YEAR OLD CHILD OPENS TWO DIFFERENT ...



In April of this year I initially contacted the Vice President of Marketing for Stack-On, Steve Martin to ask if I could visit their facility near [Chicago](#) to do a story on gun safes because they were the leader in the industry. He told me that their company generated \$100,000,000 a year and that “they did not talk to the media.” I then told him that we had examined several of their safes and found every one of them to be easily opened, even by kids. He did not ask one question. I offered to send him links to the videos that we produced. He was not interested. I offered to come to Chicago to brief his engineering team on the design problems. Again, he was not interested. There has been absolutely no follow-up by Stack-On. In my world, that means that they either know of the problems and were concerned about their liability, or they do not care. Either way, it places any consumer at potential risk if they purchase these Stack-On containers until the security flaws are remedied.

I spoke with Dianna Gee, spokesman for Walmart and told her of the issues that we had found because Walmart sells these containers on-line. They had contacted me before about a story I [wrote about defective prescription drug containers](#) that they sold. I assumed because of their response to that story

I visited Cabelas stores in Minnesota, Nebraska, and Kansas and interviewed staff about the safety and security of these containers, posing as a customer. See the video in our detailed report with a senior employee in Overland Park, Kansas. While he was well-meaning, he had no clue about how these products were produced or whether they were secure, notwithstanding his representations to the contrary. When I asked him if kids could open these containers, his response was “absolutely not.”

I met with representatives of Scheels sporting goods in [Sioux Falls](#), South Dakota and purchased one of their biometric gun safes, produced by Stack-On. It cost \$200. I demonstrated how to open this safe with a paperclip for management staff at the store; in fact, they provided the paperclip and were quite concerned about the problem. I then met with the manager and made the same offer: we would be glad to provide the detailed videos and a briefing to their senior management in [Fargo](#), North Dakota. They were not interested, even after [KELO-TV](#), the statewide [CBS](#) TV affiliate [aired the story](#) and showed me opening four different Stack-On safes. Scheels continues to sell these containers.

In response to the KELO-TV story, the Public Relations firm for Stack-On issued the following statement:

“While Stack-On respects Mr. Tobias's proven ability to pick the most complex of security locks, we strongly stand behind the safety of our products. Stack-On Personal Safes are certified by California Department of Justice (DOJ). This certification involves testing, by an independent laboratory approved by California DOJ, for compliance with adopted standards. We are proud of this designation and the protection we provide. In addition, our Portable Cases comply with TSA airline firearm guidelines.”

I certainly appreciate the endorsement but their statement does not address any security issues that we found and simply relies upon the California DOJ

standards to protect them from responsibility or liability. Evidently the management of Stack-On believes that a simple paperclip does not constitute a security threat or constitutes a sophisticated method of entry. In any event they confirm that their containers are secure.

Finally, I met with the manager of Dicks Sporting Goods in Minneapolis. This company, headquartered in Pennsylvania, operates about 450 stores around the country. I sent video links to their manager who told me after viewing them that he was very concerned and would notify corporate. Again, they continue to sell the safes and there was absolutely no follow-up, nor would they return phone calls.

Every consumer needs to understand that most of these gun safes are produced in China. They may look secure but they are not, for a variety of reasons, all based upon poor to non-existent security engineering practices. Their manufacturers, in my view, do not have the slightest expertise in designing these kinds of products. We have seen this in countless other examples. It is obvious that companies like Stack-On do not know how to open their own containers, much less design them to be secure against such simple methods of attack.

Security Vulnerabilities

We were able to easily open containers with electronic keypads, motor-drive locking systems, push-buttons, and even biometric fingerprint readers. We were able to access programming buttons to enter new combinations or fingerprints. We circumvented the key locks used for bypass with paperclips and small pieces of brass. In several containers we pushed our finger into the fingerprint reader and applied pressure, then dislodged it and inserted a wire into the internal mechanism to manipulate the plunger that controls the locking bolts. Even more troubling, some of the safes could be bounced open to trip the spring-loaded solenoid pin that blocked movement of the bolt work. This was how we opened the Stack-On Strong Box in Vancouver.

Unfortunately, manufacturers and consumers are deceived and misled into a false sense of security by electronic credentials, codes, and biometrics. We have seen this often, even with high security locks. Our rule: **electrons do not open doors; mechanical components do.** If you can compromise the mechanisms then all the credentials, encryption, fingerprint readers, and other gizmos and gimmicks mean nothing.

If you have weapons or valuables and are using or are contemplating using any small gun safe, you need to understand the following issues:

- Containers may look secure but that does not guarantee security;
- Electronic credentials do not provide any security if the underlying mechanism is flawed in its design;
- There are no current standards that adequately address covert methods of entry of these containers. While we agree that virtually any container can be opened by a brute-force attack; that is not what we are concerned with. It is the ability of someone to access the contents of a safe without a trace, especially by kids. At a minimum a gun safe should be rated by Underwriters Laboratory but unfortunately, there are no current standards that address security issues in small containers;
- Most manufacturers do not understand even basic security engineering principles. They have one goal: to make money and to produce the cheapest container possible for the highest profit margin. That is why virtually all of these containers are produced in Asia. They are, to put it bluntly, junk and every professional locksmith and security experts know it. That is why you should purchase safes only from a professional, rather than a sporting goods store that in fact has absolutely no expertise in security and is only interested in what sells and how much money they can make. That premise is clear from

the lack of relevant response from any of the major retailers that I contacted;

- If you purchased one of the gun safes that are documented in our analysis, you should not rely upon it for any measure of security. While some might say that these safes are better than nothing, I do not agree. That premise may be true some of the time, but I believe it is far more dangerous to have a container that a kid can figure out how to open and not be aware of the security vulnerabilities;
- Never underestimate the cleverness of your kids. They are often infinitely more inventive than you in devising ways to open a safe that contains what we call in the law an “attractive nuisance.” Kids want to play with guns. That is why gun safes are sold. Tragically, manufacturers place profits ahead of security and the result is what we have documented;
- Guns and ammunition should be stored in separate containers that are actually secure;
- If you have one of these containers, you should return it and replace it with a real safe that is not simply a box with a lock on it that represents itself as secure, but is not.

Based upon the response of four of the largest sporting goods stores in the United States, I can only assume they are far more interested in revenue than the safety and security of their customers. Not one of them has withdrawn these products from the market, and therefore in my opinion, each is placing every consumer at risk. The picture on the packaging of these containers that show a handgun inside is a clear message to the consumer that they are secure for the storage of weapons. In my view it is false, misleading, and dangerous for any manufacturer to be purposefully or negligently making such representations.

I believe it is a fair statement that if Stack-On had understood the basic design flaws of their internal mechanisms in their gun safes that they sold for \$36 to the Sheriff's Office in Vancouver, then maybe Eddie Ryan Owens would still be alive. The same mechanisms that allowed us to open the suspect safe at the police department in Clark County can be found in many cheap gun and asset safes; even those used by the TSA at their security checkpoints at airports throughout the United States.

Remember the Stack-On press release that touted the fact that their containers met "TSA airline guidelines" as if this endorsement is added evidence of the security of their products? We tested these containers, and the reality is they can be opened in a variety of ways including with a tiny piece of brass by a three year old.

Defective and deficient security designs matter, especially when we are talking about firearms and their protection. I would call for a reassessment by California and other jurisdictions of their standards, and for all manufacturers to have the competence and responsibility to design and produce secure products.

On the poor design of gun locks: I have written about the insecurity of gun *locks* for protecting access to weapons, especially by kids. We [evaluated a number of popular gun locks](#) in 2007 and found they were essentially worthless. A [detailed report on our findings](#), with video was also released in 2007. To further the security myth of cheap or poorly constructed or designed locks for guns, millions of cable locks have been provided through a fifty-million dollar Justice Department grant to the [National Shooting Sports Foundation](#) (NSSF). For [Project ChildSafe](#), which we also found poor in quality and often easily compromised. These locks were handed out by law enforcement agencies since about 2002, when DOJ awarded the original grant. I spoke with several of the manufacturers of these devices and they all agreed that the cable locks should not be relied upon to protect weapons.

For more, read:

[Delta Flight Attendant: We're Here To Save Your A– Not Kiss It](#)

[Warning: Scary Flaws Discovered In Childproof Drug Containers](#)

[The Best Inexpensive Tools To Spy On People](#)



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I wear two hats in my world: I am both an investigative attorney and physical security/communications expert. For the past forty years, I have worked investigations,

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