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## MEMORANDUM OF LAW

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**Re: 3D Printing of Firearms: Federal and California Law**  
**Date: July 9, 2013**

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### I. Introduction

The topic of 3D-printed guns has been getting nationwide press coverage. Generally, the 3D printing of firearms is a process by which a 3D printer constructs 3D parts from a design. The increasing curiosity and popularity of the concept has raised some concerns as to its legality under both California and federal law.

On Thursday, May 9, 2013, [www.CalGunLaws.com](http://www.CalGunLaws.com) provided a link to ATF's Q&As concerning the legality of using 3D printing to make a firearm. Curiously, on Friday, May 10<sup>th</sup>, that ATF website posting was removed. ATF's previous information on 3D printing of firearms can be found [here](#). But because this information was so quickly removed from the ATF website, it should not be taken as ATF's official current position on 3D printing.

Meanwhile, [Defense Distributed](#) made plans available online that would allow a person to use a 3D printer to print the parts necessary to build a firearm. But the [US Department of Defense Trade Controls](#) (DOD) is looking into whether [Defense Distributed](#) violated federal and international arms trade laws by posting 3D printer files that can be used to manufacture a firearm on the internet. According to the [Defense Distributed](#) website, "DEFCAD files (the files that can be used to print the parts of a firearm) are being removed from public access at the request of the US Department of Defense Trade Controls. Until further notice, the United States government claims control of the information."

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The DOD investigation was later confirmed by several news outlets:

<http://www.washingtonpost.com/blogs/innovations/wp/2013/05/09/plans-for-3d-printed-gun-downloaded-100000-times-state-department-in-contact-with-defense-distributed>

<http://www.foxnews.com/tech/2013/05/09/3d-gun-printer-defense-distributed-pull-weapon-specs-off-webs-ite>

<http://www.forbes.com/sites/andygreenberg/2013/05/08/3d-printed-guns-blueprints-downloaded-100000-times-in-two-days-with-some-help-from-kim-dotcom/>

<http://news.discovery.com/tech/gear-and-gadgets/3d-printed-gun-fires-first-shot-130508.htm>

## **II. The 3D Printing Process**

There are many processes that can be classified as “3D printing.” The general concept is usually the same. An object or device is either designed or scanned in three dimensions, and the data is fed into a computer. The data from the computer is then sent to the 3D printer. Much like a computer tells a conventional printer how to print out a document, the computer tells the 3D printer how to construct the three dimensional object.

The 3D printer adds layer upon layer of the material to create the object. The material used depends on the machine and process. Currently, there is no process to create a single object that has moving parts, but existing technology allows the printer to create all of the individual parts of an object comprised of moving parts. While the process cannot make a whole firearm, it can make each of the parts for a firearm, which can then be assembled. Most 3D printers use some form of plastic or polymer, though there are more expensive 3D printers that work with metal. To make a firearm, the material must be strong enough to stand up to the stress of being fired. If made solely from plastic or polymer, a “printed” firearm could theoretically be undetectable to airport metal detectors. But some parts of a firearm, especially the barrel, will not perform well if they are made of materials that cannot stand the pressures that result from firing.

## **III. Governing Law**

### **A. “Manufacturing” a Firearm**

Engaging in the business of printing 3D firearms could lead to violations of both California and federal law. Generally, it is legal for a person to manufacture a firearm solely for himself or herself, provided the end product is not a type of firearm that is itself illegal to possess under state or federal law. So a person cannot make firearms like short barreled shotguns, silencers, “assault weapons” or machineguns without the proper permissions, permits, and/or licenses (depending on the jurisdiction and what the person is making).

Printing 3D firearms to transfer to another person, however, could be a violation of federal law. Under federal law, a person must have a license to “engage in the business” of manufacturing and/or selling firearms. 18 U.S.C. § 922(a)(1). There is an application that must be filed with the Attorney General along with the applicable fee before a person can “engage in the business of importing,

manufacturing, or dealing in firearms. . .” 18 U.S.C. § 923.

California law also imposes restrictions when it comes to manufacturing firearms. Under California law, a person must have a license pursuant to Penal Code section 29030 to manufacture 100 or more firearms per year in the state. Manufacturing fewer than 100 firearms in a calendar year does not require a California license. Violating this provision is a misdemeanor. Cal. Penal Code § 29030.

### **B. International Arms Trade Issues**

Making the plans for a 3D printed firearm available internationally could also potentially be a violation of the International Traffic in Arms Regulations (ITAR). This, according to news reports, is the reason Defense Distributed ceased making the 3D printed firearm plans available. ITAR is a set of federal regulations that regulates the export and import of defense-related articles and information on the United States Munitions List (USML). In summary and generally, to export such articles or information, one must register with the State Department and also apply for an export license, describing the article or information, the transferee and the purpose of the export. See *International Traffic in Arms Regulations*, 22 C.F.R. §§ 120.1-120.39.

The instructions for printing a 3D gun could qualify as “information” under ITAR. In the case of Defense Distributed, which posted the 3D firearm printing instructions online, the organization is essentially sharing these instructions with the entire world. It will be difficult to get approved for an export license under ITAR if the transferee is every single person in the world.

In news articles, the founder of Defense Distributed, Cody Wilson, argues that his designs for the 3D printed guns are exempted from ITAR because they are publicly accessible in the first place. Under ITAR, information that is available in the public domain is exempted from the export license requirement. Public domain in this context is, in summary, information that is generally accessible or available to the public through means such as sales at newsstands or bookstores, subscriptions, libraries that are open to the public, through public release in any form, and published research from accredited institutions. Wilson already has his designs on the bookstore shelves and believes that this exempts them from ITAR.

### **C. “Undetectable Firearms” Laws**

Both state and federal law require firearms to “show up” and be detectable by walk-through metal detectors and x-ray machines. With limited exceptions, both California and federal law specifically require that firearms (after grips, stocks, and magazines are removed) be detectable by walk-through metal detectors that are calibrated to detect firearm “security exemplars.” Cal. Penal Code §§ 24610, 17280(a); 18 U.S.C. § 922(p)(1)(A). These security exemplar firearms contain enough metal to “set off” the metal detectors.

To avoid violating these laws, Defense Distributed added a six ounce cube of “non-functional steel into the body of their firearm.” Andy Greenberg, *Meet the “Liberator”’: Test-Firing the World’s First Fully 3D-Printed Gun*, Forbes (May 5, 2013), <http://www.forbes.com/sites/andygreenberg/2013/05/05/meet-the-liberator-test-firing-the-worlds-first-full-y-3d-printed-gun>.

California and federal laws also require a “major component” of the firearm, when subjected to inspection by x-ray machines commonly used at airports, to generate an image that accurately depicts the shape of the component. Cal. Penal Code §§ 24610, 17280(b); 18 U.S.C. § 922(p)(1)(A). Most materials, even plastics and polymers, generate an image that accurately depicts the items shape when put through an x-ray machine. So despite being made out of plastic, the 3D-printed firearm likely still generates an image in an x-ray machine that looks like the firearm.

#### **D. California “Zip Guns” Law**

Under California law, a 3D-printed firearm also has the potential of meeting the definition of a “zip gun.” Generally, a “zip gun” is a “crude homemade pistol.” *American Heritage Dictionary of English Language* 2003 4<sup>th</sup> ed. 2006. The restrictions, California Penal Code § 33600, and exceptions for “zip guns” are the same as those for “undetectable firearms.” *See* Cal. Penal Code §§ 17700-17745. A “zip gun” is defined as a weapon or device that meets *all* of the following criteria:

- (a) It was not imported as a firearm by an importer licensed pursuant to Chapter 44 (commencing with Section 921) of Title 18 of the United States Code and the regulations issued pursuant thereto.
- (b) It was not originally designed to be a firearm by a manufacturer licensed pursuant to Chapter 44 (commencing with Section 921) of Title 18 of the United States Code and the regulations issued pursuant thereto.
- (c) No tax was paid on the weapon or device nor was an exemption from paying tax on that weapon or device granted under Section 4181 and Subchapters F (commencing with Section 4216) and G (commencing with Section 4221) of Chapter 32 of Title 26 of the United States Code, as amended, and the regulations issued pursuant thereto.
- (d) It is made or altered to expel a projectile by the force of an explosion or other form of combustion.

Cal. Penal Code § 17360.

Taking the above requirements into account, the 3D-printed firearm may not be considered a “zip gun.” First of all, Defense Distributed has a federal firearms license to manufacture firearms, and the 3D-printed firearm was designed by the manufacturer, in this case Defense Distributed, to be a firearm (according to reports, Defense Distributed possesses a federal firearm license to manufacture firearms). Therefore, subsection (b) has not been met, and the 3D-firearm cannot be considered a “zip gun.”

Subsection (c) presents a bigger issue. To be considered a “zip gun”, no tax must have been paid on the firearm, and there also must not be an exemption that was *granted* under the above referenced code sections. Generally, there is a Firearms and Ammunition Excise Tax (FAET) that attaches when the taxable article, in this case the 3D-printed firearm, passes from the manufacturer, producer, or importer to the purchaser. 27 C.F.R. § 53.2(a). The tax only attaches once to the sale or business use of the firearm.

However, in this case, the “manufacturer” is the individual who acquired the blueprints from Defense Distributed and used a 3D printer to manufacture his or her own firearm. That person is the end user, but there was no tax paid at any stage. Thus, unless there is an exemption, that person does meet subsection (c).

The exemptions for paying the tax are listed in the United States Code. These exemptions include articles that are to be used “as material in the manufacture or production of, or as a component part of, another article taxable” under the U.S. Code. It is also exempts articles if they are:

- (1) for use by the purchaser for further manufacture, or for resale by the purchaser to a second purchaser for use by such second purchaser in further manufacture,
- (2) for export, or for resale by the purchaser to a second purchaser for export,
- (3) for use by the purchaser as supplies for vessels or aircraft,
- (4) to a State or local government for the exclusive use of a State or local government,
- (5) to a nonprofit educational organization for its exclusive use, or
- (6) to a qualified blood collector organization (as defined in section 7701(a)(49)) for such organization's exclusive use in the collection, storage, or transportation of blood, but only if such exportation or use is to occur before other use.

26 U.S.C. § 4221.

There is no exemption listed above for the manufacture of a firearm by an individual. It could be argued that because an individual is not in the business of dealing in firearms (which is required under federal law to be considered a manufacturer), that there is no provision that mandates that this individual pay a tax on the one-time manufacture of a 3D-printed firearm for himself or herself. However, this argument may fall short because Penal Code section 17360(c), as stated above, notes that the referenced federal statutes must “grant” an exemption. The word “grant” could be interpreted to mean an explicit grant, rather than an implied grant.

Even though it is questionable whether 3D-printed guns fall under subsection (c) of Penal Code section 17630, a 3D-printed gun probably still does not meet the definition of a “zip gun” because *all* four prongs are *not* met (that is, as described above, subsection (b) is not met because the 3D-printed firearm was designed by Defense Distributed to be a firearm).

#### **E. Unconventional Pistols**

A 3D printed firearm could also be considered an unconventional pistol, which is a prohibited weapon under California law. Cal. Penal Code §§ 16590 and 31500. The Penal Code defines an unconventional pistol as a firearm that (1) does not have a rifled bore, and (2) has a barrel or barrels of less

than 18 inches in length or has an overall length of less than 26 inches. Cal. Penal Code § 17270. Based on the information we have, a 3D printed firearm does not have a *rifled* bore, and instead has a smooth bore. Therefore, depending on the length of the 3D printed firearm, it could fall under the definition of an unconventional pistol.

#### IV. Conclusion

No doubt this issue will get continued coverage in the future. There is already proposed legislation attempting to ban these types of firearms. A bill has been proposed to ban the possession of undetectable firearm *receivers* and firearm ammunition *magazines* made by individuals. See the [Undetectable Firearms Modernization Act.]

Stay tuned to [[www.CalGunLaws.com](http://www.CalGunLaws.com) alerts] concerning this and other firearm related topics.

#### For Further Assistance:

For links to free information on firearms laws, the Legal Resources section of our [www.calgunlaws.com](http://www.calgunlaws.com) website has subsections on various firearms law topics. Check it out!

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