

“3D Printing” of Firearms

FAST FACTS

While there has been a lot of media attention given recently regarding the use of what has been termed “3D printing” technology to produce firearms, it is important to note that this technology, in itself, does not present a public safety problem.

Its high cost, limited effectiveness, and the need for highly-skilled experts to use this technology mean that criminals are not using — and will likely never use — 3D printing to produce firearms.

HIGH COST, LOW BENEFIT

It costs many thousands of dollars and many hours to produce firearm parts using this advanced printer technology and the required computer-assisted design (CAD/CAM) programs. Established manufacturers may reap the benefits of the technology as a way to help develop prototypes for later production.

Even after the high cost, the end result is not as effective as a conventionally produced firearm. For example, in the frequently cited stunt in which a lower receiver for an AR-15 was produced using such technology, the assembled firearm fell apart after 6 shots.^[i] This is hardly a mass-production tool ready for do-it-yourself production of firearms.

CRIMINALS HAVE EASIER, CHEAPER SOURCES

There have been no reports of a criminal using 3D printing to manufacture a firearm. In fact, the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) has publicly stated

they have never had a trace request for a firearm produced by 3D printing and there has never been such a firearm used in a crime.^[iii] Considering that

- **3D Printing Does Not Present a Public Safety Risk.**
- **Criminals Won’t Make Guns; They Steal Them and Get Them on the Street**
- **Current Laws Properly Govern 3D Printing of Firearm Parts and Components**

it would be easier and cheaper for criminals to make a firearm through more “traditional” means, the development of this technology will not change the fact that criminals have easier and cheaper avenues to obtain firearms. According to the U.S. Department of Justice, nearly 40 percent of criminals acquired their guns illegally, through theft or on the black market. Another 40 percent obtained their firearms from family or friends.^[iii]

FIREARMS ALREADY REGULATED

Furthermore, firearms produced using this advanced manufacturing technology are already heavily regulated under current law. The 1968 Gun Control Act, the 1988 Undetectable Firearms Act and other federal laws all govern firearms produced by a 3D printing process, just as they apply to conventional manufacturing processes using machine tools. If the technology at some point in the distant future reached the point where fully functioning and reliable firearms could be brought to market, the sales

of such firearms produced with this technology would be governed by these federal laws. Depending on jurisdiction, state statutes and local ordinances may also apply.

Despite rhetoric about “undetectable” firearms, if this technology were to reach the point in the future where it could be used to produce fully functional firearms, some critical components of the firearms and magazines, e.g. bolt, barrel liner, springs, would still be made of steel, and hence detectable. In addition, ammunition cartridges are made with metal components that are detectable.

In summary, given the exceedingly high costs and technical hurdles involved with 3D printing technology, the development of this advanced manufacturing technology does not pose a public safety risk. The federal laws now on the books are more than sufficient for its management.

[i] Devin Coldewey, “3-D printed gun fires 6 shots — then falls apart,” NBC News, <http://www.nbcnews.com/technology/futureoftech/3-d-printed-gun-fires-6-shots-then-falls-apart-1C7404226#/technology/futureoftech/3-d-printed-gun-fires-6-shots-then-falls-apart-1C7404226> (Last accessed Feb. 19, 2013).

[ii] Testimony of Earl Griffith, Chief, Firearms Technology Branch, Bureau of Alcohol, Tobacco, Firearms and Explosives, to the United Nations Second Open-Ended Meeting of Government Experts, June 1, 2015.

[iii] Caroline Wolf Harlow, Department of Justice, Bureau of Justice Statistics Special Report, “Firearm Use by Offenders: Survey of Inmates in State and Federal Correctional Facilities,” NCJ 189369, November 2001. <http://bjs.ojp.usdoj.gov/content/pub/pdf/fuo.pdf>