

# Homemade 3D guns in US stir more buzz than bang

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Like many Americans, Travis Lerol has owned guns for much of his life, but the single-shot Liberator he made himself in his basement with a tabletop 3D printer is unique.

For one thing, as a firearm, it leaves something to be desired.

"I've got it to go off a grand total of once," out of about 200 attempts, the 31-year-old software engineer told AFP at his home in this sleepy suburb outside Washington.

The firing mechanism—a tiny nail—"seems a little unreliable, and I've heard that other people who have printed (Liberators) have had some troubles as well," Lerol added.

"It's more of a fun project than a practical firearm for me. I own better ones. It's not like it's going to replace anything.... It's a fun project with a bit of a challenge to it."

Vaguely resembling its namesake, a crude US-made single-shot pistol airdropped to French resistance fighters in World War II, the Lego-like Liberator is the first complete firearm that can be produced with a 3D printer.

The computer-aided design (CAD) files required to make it were downloaded more than 100,000 times earlier this year from Defense Distributed, an open-source website dedicated to 3D printable gun

components.

The State Department, which oversees US weapons exports, ordered Defense Distributed in May to pull down all its Liberator blueprints—but by that point, users had already reposted them widely on The Pirate Bay and similar file-sharing sites.

"I think Liberator files have been downloaded at least a million times" from all over the Internet, Cody Wilson, the University of Texas law student behind Defense Distributed, told AFP in an email.

But as Lerol, one of the very few to have gone public with his Liberator project, pointed out: "There's not a whole lot of us who have (actually) printed it yet."

Lawmakers in New York and California have been pushing to outlaw 3D guns, while draft legislation to prohibit "undetectable firearms" has been referred to the US House of Representatives' judiciary committee.

"From a purely constitutional perspective, this is a deprivation of equal protection of the law, because individual firearm production is legal in the United States," Wilson said.

Guns of any kind have been a divisive issue in the United States since the December massacre of 20 children at Sandy Hook Elementary School in Newtown, Connecticut, which thrust gun control to the top of the political agenda.

Overseas, police in Australia have successfully printed a Liberator—it took 27 hours and well under \$2,000—as an object lesson in how easy it would be for a criminal to do the same.

"The terrorism implications of such a weapon are huge," New South

Wales police commissioner Andrew Scipione told Australian news media.

"We will prosecute offenders caught manufacturing, selling, owning or in possession of a 3D gun."

In Canada, researchers at the University of Toronto printed a Liberator as well, but with design changes to avoid running afoul of gun laws, the Toronto Star newspaper reported.

In the United States, with almost as many guns (an estimated 300 million) as people (315 million), and more than 30,000 gun-related deaths a year, the right "to keep and bear arms" is famously enshrined in the Constitution.

"Firearms may be lawfully made by persons who do not hold a manufacturer's license ... provided they are not for sale or distribution," explains the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) on its website.

Indeed, for many years, gun enthusiasts have convened "build parties" to put together weapons as lethal as the storied AK-47 assault rifle from parts easily purchased on the Internet.

Lerol, a target shooter and one-time summer camp gun instructor who owns two pistols, a shotgun and an AR-15 semi-automatic rifle, has made two Liberators with a Cubify printer that cost \$1,300, about the price of a high-end laptop.

Reading CAD files off a USB key, the stylish device whirred quietly in Lerol's cluttered man cave one recent summer evening, creating like magic a couple of small gun parts from a fine spray of thermoplastic.

Nearby were other objects Lerol has printed: a quaint Oriental tea pot, a blue "Dr Who" police box, a strappy wedge-sole woman's shoe, a few chess pieces and some components of a homemade rifle.

Lerol said some fellow shooters looked askew at his Liberator when he turned up at a Maryland shooting range one day to test it, but he is not put off by the fear and loathing provoked by the notion of do-it-yourself 3D gunmaking.

"I think people are often worried about new technologies. They don't necessarily fully understand them, so they worry about what the bad possibilities might be," he said.

"In this case, people worry about someone taking a gun on a plane," he said.

"No one wants some terrorist doing that, but it's not really an undetectable firearm" because—even with its plastic construction—today's airport screening devices would spot it.

"And I don't see these being used for crime," Lerol added, "because there are simply so many other firearms out there. Most of which are much better."

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