

Boeing's weapon against drones: Think laser, think welding torch

August 30 2015, by Nancy Owano



Consider a contest of unmanned aerial vehicle versus energy. And one where energy wins. Boeing has a compact laser weapons system to pull the win off. The system directs energy on its targets, focusing energy on a spot in order to damage the target. Think of it as a welding torch, said Isaac Neal, Boeing engineer, but from many hundreds of meters away.

No esoteric alphabet and number strings need recall, as Boeing refers to it directly as the "Compact Laser Weapons System." California-based *Wired* reporter Jordan Golson described it as "a laser cannon specifically designed to turn [unmanned aircraft](#) into flaming wreckage."

The system made news this month in reaching "a milestone," in a test in California. It tracked and disabled a moving, untethered [unmanned aerial vehicle](#).

Lee Mathews of *Geek.com* said in past Boeing demos, the laser was taking down drones that were resting on the ground or tethered, much easier targets. "For this latest test," he noted, "Boeing ditched the [wire](#)."

Earlier this month, *IHS Jane's 360* newsletter carried a story from Daniel Wasserbly in Washington, DC, which said, "Boeing's Compact Laser Weapon System (CLWS) used a 2 kW laser to [disable](#) an unmanned aerial vehicle (UAV) during Exercise 'Black Dart', representatives from Boeing announced on 11 August."

He said at an August 3 event, the system shot down an airborne UAV at Point Mugu in California by holding the laser beam on the UAV's tail for 10 to 15 seconds. David DeYoung, director of Boeing Laser and Electro-Optical Systems, spoke about it during a media roundtable.

A video, meanwhile, shows a demonstration of the compact laser's precision. The system disabled the [aerial vehicle](#) at a tactical range—it took down the UAV in seconds.

Neal said once they turned the laser on, it was about 15 seconds, until the drone was disabled. He also said that if you were on the receiving end of the laser energy, you would have no idea where it was coming from or what was even [happening](#).

The system is portable; it sets up in minutes and directs [energy](#) in seconds. It's four boxes with simple interconnects. The video identified the system's four parts as a water-cooled chiller, battery power supply, fiber laser and beam director.

Golson said, "Instead of a massive laser mounted on a dedicated truck, the compact system is small enough to fit in four suitcase-sized boxes and can be set up by a pair of soldiers or technicians in just a few minutes. At the moment, it's aimed primarily at driving drones away from sensitive [areas](#)."

Wired said the [laser](#) is controlled with a standard Xbox 360 controller and laptop with custom [targeting](#) software. "Once in range," wrote Golson, "the system can take over from the human operator and control targeting and tracking automatically."

Boeing, said the BBC, is one of many companies "working to develop high powered [lasers](#) that can be used in military or defense scenarios."

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