

Landmine Monitor Backgrounder on US Landmine Transfers to Ukraine

26 November 2024

Announcement

Ukraine's President Zelensky [last week described](#) landmines as “essential” for the defence of Ukraine and welcomed a United States (US) [package of military assistance](#) that includes antipersonnel mines.

Upon confirming on the transfer decision, US defense secretary Lloyd Austin [said that](#) Ukraine has asked the US to provide Ukraine with antipersonnel mines and the US has talked to Ukraine about how Ukraine would employ them. Austin also said that Ukraine is fabricating its own antipersonnel mines.

The State Department [notification](#) for the aid package published late on November 20 specified that “non-persistent anti-personnel landmines” are being provided.

At a meeting on November 22, White House officials told representatives from non-governmental organizations that three types of antipersonnel mines are being sent to Ukraine: ADAMs, Volcano, and MOPMs. More information on each type follows below.

Types to Be Transferred

ADAM (Artillery Delivered Antipersonnel Mine) – ADAM was first fielded with the U.S. Army in Europe in 1983. Each 155mm artillery projectile contains 36 antipersonnel mines. When the projectile is fired, the mines are expelled from the canister, releasing a “tripwire-fired, pop-up fragmenting warhead.” Each mine ejects seven tripwires that, when disturbed, trigger the mine to jump four to eight feet in the air and spray fragments across more than 40 feet. Mines in the M731 projectile are supposed to self-destruct in four hours, while those in the M692 projectile self-destruct in 48 hours. ADAM projectiles can be fired from a maximum distance of 17,740 meters.

MOPMS 131 (The Modular Pack Mine System) – MOPMS is a system that deploys mines by means of a hand-held remote control radio unit. The mines can be fired out of a box by troops who have already left the scene. The 165-pound styrofoam dispenser contains 17 antivehicle mines and 4 antipersonnel mines. Inside the dispenser seven launch tubes each hold three mines. Once the mines have been emplaced by hand, a remote control unit allows personnel to signal the dispenser from a distance of 300 meters to one kilometer away. Once ejected, the mines arm and discharge four 40-foot-long tripwires in four directions. The system is programmed to detonate the mine when at least one pound of pressure is applied.

Volcano (Multiple Delivery Mine System) – The Volcano is called a multiple delivery mine system because it can be deployed from different vehicles, using the M139 launcher rack, as well as from Blackhawk helicopters. The M139 Volcano launcher rack holds up to 40 M87 Volcano canisters, each containing six antivehicle mines and one antipersonnel mine. Ground vehicles

towing the Volcano travel five to fifty miles per hour. From the air, mines are dumped five to 150 feet above ground at a speed of 20–200 knots. The average minefield length is 960 meters.

Humanitarian Considerations

During the Ottawa Process to negotiate the Mine Ban Treaty, the US tried but failed to secure a loophole in the treaty text that would have allowed for antipersonnel mines equipped with self-destructing and/or self-deactivating features. Its proposal failed to gain support and the resulting Mine Ban Treaty comprehensively prohibits all types of victim-activated explosive devices, regardless of their predicted longevity, delivery method, or type of manufacture (improvised or factory-made).

In theory, a mine that blows itself up in a relatively short period of time should pose less danger to civilians than a mine that lasts for years or decades. However, so-called “non-persistent” or “smart” mines are not safe mines. They still pose unacceptable risks for civilians, cause new mine victims, and the clearance task is just as dangerous, costly, and time-consuming.

Mines that are designed to self-destruct or deactivate are no better able to distinguish civilian from combatant. They still pose unacceptable risks for civilians. Civilians in “smart” minefields not only face the [danger](#) of triggering mines that have failed to self-destruct, but the danger of those mines randomly self-destructing at unknown times.

US mines can be scattered or remotely delivered by aircraft, artillery, or ground dispensers at a rate of thousands in a matter of minutes, over a wide area with little precision. Given the failure rate for self-destruction, many unexploded mines will remain on the ground with no outward indication of their “safety.” Because of the large quantities of these mines that are typically employed at one time, the danger to civilians could be greater than hand-laid non-self-destructing mines.

Mines that have failed to self-destruct, but which may have self-deactivated, will have to be treated by deminers as live mines that may potentially explode. However, despite being “theoretically safe,” these mines would remain no touch items and would have to be destroyed in situ. They remain dangerous due to their explosive content and still contain intact fuzing systems containing primary explosive. Thus, clearance would still be required and there would be additional risk from conducting vegetation cutting and ground preparation.

The Persian Gulf War of 1991 was the last time that the US used antipersonnel mines. Its forces scattered 117,634 self-destructing/self-deactivating landmines, mostly from airplanes, over Kuwait and Iraq. A [General Accounting Office \(GAO\)](#) investigation found that US commanders were reluctant to use the mines because of their impact on mobility, their potential for causing casualties to US or friendly forces, and other safety concerns.

Legal and Policy Implications

Until now, the US had accepted that self-destructing and self-neutralizing antipersonnel mines should be eliminated. It has spent more than a billion dollars to find alternatives to these weapons. The US has prohibited export of all antipersonnel mines since 1992 and has not produced antipersonnel mines since 1997.

Receiving and using US antipersonnel mines and manufacturing its own antipersonnel mines puts Ukraine in willful violation of the Mine Ban Treaty and raises by far the most serious compliance challenge that the international treaty has ever faced.

The US landmine transfers contradict President Biden’s own [landmine policy](#) announced in June 2022, which re-aligned US policy with key provisions of the Mine Ban Treaty. Under that policy, which White House officials say remains in place, the US has committed to “not assist, encourage, or induce anyone, outside of the context of the Korean Peninsula, to engage in any activity that would be prohibited by the Ottawa Convention.”

The new US landmine transfers have more in common with a January 2020 [policy directive](#) announced by the administration of President Donald Trump that allowed the US to develop, produce and use antipersonnel landmines as long as they are “non-persistent,” that is, “designed and constructed to self-destruct in 30 days or less after emplacement and will possess a back-up self-deactivation feature.”

Stockpiling

In June 2022, US officials said that the US has approximately three million stockpiled antipersonnel landmines. That total quantity has not changed since 2014, when the Department of Defense disclosed that the US had an “active stockpile of just over 3 million anti-personnel mines.” The following *Landmine Monitor 2024* [report](#) table details the latest publicly available data on the types and quantities possessed, dating from 2010.

US stockpiles of antipersonnel mines in 2010

System (quantity of antipersonnel mines in each)	Quantity	Antipersonnel mines
Stockpiled inside the US		
M692 Artillery Delivered Antipersonnel Mine [36]	41,785	1,504,260
GATOR*	9,541	200,795
Volcano, in M87 dispenser only [1]	64,800	64,800
M86 Pursuit Deterrent Munition [1]	2,586	2,586
M131 Modular Pack Mine System [4]	1,757	7,028
Sub-totals	120,469	1,779,469
Stockpiled outside the US		
M692 Artillery Delivered Antipersonnel Mine [36]	40,017	1,440,612
M74 Ground Emplaced Mine Scattering System [5]	120	600
GATOR*	1,310	26,398
Volcano, in M87 dispenser only [1]	16,492	16,492
M86 Pursuit Deterrent Munition [1]	1,191	1,191
M131 Modular Pack Mine System [4]	102	408
Sub-totals	59,232	1,485,701
Total (antipersonnel mines stockpiled)	-	3,265,170