**A U.S.-Made Missile Went Astray in Ukraine, Injuring Civilians**

An air-launched AGM-88B missile, built to destroy enemy radars, apparently missed its target and hit an apartment building in Kramatorsk in September.

An American-made missile fired by Ukrainian forces wounded three civilians in eastern Ukraine in September, according to residents and debris recovered from the scene, marking a rare instance where U.S.-supplied weapons were linked to civilian casualties in the nine-month-old conflict.

The strike — from an AGM-88B High Speed Anti-Radiation Missile, which is fired from a fighter jet against ground targets like radar and air-defense systems — happened on Sept. 26 around 6 p.m. in the eastern Ukrainian city of Kramatorsk, residents said. The industrial city in Ukraine’s Donbas region has been the site of constant missile and artillery attacks since Russia invaded in February.

As Russia’s ground war in Ukraine has bogged down, it has kept up a punishingly heavy missile and drone barrage that has [destroyed critical civilian infrastructure](https://www.nytimes.com/2022/11/17/world/europe/ukraine-electricity-water-infrastructure.html) and killed or wounded many Ukrainian civilians. In response, Ukraine has had to rely heavily on air defense systems, some of them newly sent from Western allies.

In one case this month, officials from the United States and Poland said that a Russian-designed missile that crossed over Ukraine’s western border into Polish territory and killed two people [was most likely an air-defense munition fired by Ukraine](https://www.nytimes.com/2022/11/16/world/europe/ukraine-russia-poland-explosion.html) in response to a heavy Russian aerial assault.

The war in Ukraine has become defined by an almost unending barrage of munitions, and the make and origin of the thousands of bullets, artillery shells and missiles fired on the war’s front lines can sometimes be impossible to verify.

But New York Times journalists were able to gather and identify distinct metal fragments left behind at the site of an earlier strike, in September in eastern Ukraine, providing a window into where the billions of dollars of United States’ military aid sent to Ukraine can sometimes land.

“Three people got wounded, they say. No dead. It hit the apartment where no one lives, and in the next one, people got hurt,” said Olga Vasylivna, a resident who lived adjacent to where the missile hit. Her account was borne out by witnesses. “We had hits in this neighborhood before. Now we are afraid of every tiny rustle.”

A spokeswoman for Ukraine’s Ministry of Defense did not respond to questions about the missile strike.

The effort to protect Ukraine’s skies and to destroy Russia’s own air defense systems has taken on new urgency in recent weeks.

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This month, the United States announced that two National Advanced Surface-to-Air Missile Systems, or NASAMS, which fire missiles that Ukraine’s allies have in large supply, had been delivered to Kyiv. Six more will be provided to Ukraine in the coming years.

The arrival of Western weapons into the Ukrainian military’s arsenal has at times required a degree of jury-rigging and improvisation — in this case, to enable Ukraine’s Soviet-era MiG fighters to fire the AGM-88, a missile it was not designed to carry.

There are no recorded instances of Ukrainian forces purposely targeting cities completely under their control, indicating that the missile was likely off-target and may have malfunctioned. Russian troops, however, have often targeted civilian infrastructure and population centers as a central and repeated tactic.

To mask their attacks on civilians, the Kremlin has often falsely attributed some such casualties to malfunctioning Ukrainian air defenses that struck residential areas instead of intercepting incoming Russian missiles and drones.

In this case, the missile hit the top floor of a five story Soviet-style apartment building, exploding on impact and boring a distinct hole in the building’s side.

In late September, Kramatorsk was roughly 20 miles away from where Ukrainian forces were trying to recapture the strategic rail hub of Lyman from the Russians. It is unclear whether the missile struck the apartment building because it missed its intended target and kept flying, or whether the missile somehow malfunctioned.

According to two U.S. defense officials there were no indications that Russian forces in Ukraine had managed to capture or use HARM missiles since the United States began supplying the weapons.

Almost immediately after the blast, images of debris and shrapnel posted to a local Ukrainian-run Telegram channel contained manufacturer numbers and decals that indicated the missile was a U.S.-made AGM-88B High Speed Anti-Radiation Missile, or HARM.

The next morning, reporters from The New York Times physically inspected a piece of shrapnel at the scene that contained an assembly number linking the debris to an electronic circuit card assembly only used in an AGM-88B, according to an online database that allows the public to look up data on U.S. government property. Other pieces of the destroyed munition also present at the blast site were consistent with older U.S.-made missiles.

The AGM-88 was developed by the U.S. Navy and Air Force after the Vietnam War for specialized warplanes to carry on missions to destroy enemy air-defense missile sites. Once launched, the missile looks for certain types of electromagnetic radiation emitted by the radars attached to surface-to-air missile sites and homes in on the source of those radio signals from more than 30 miles away, detonating 40 pounds of explosives in its warhead on impact.

It is unclear when the Pentagon first began providing AGM-88s to the Ukrainian military. But in August, U.S. defense officials acknowledged that Ukraine’s forces were using the weapon in combat. Videos posted on social media also confirmed their use.

The intended target of the AGM-88 that struck the apartment building in Kramatorsk is unclear, but it is possible that it was unable to find an enemy radar and struck the apartment building after it ran out of fuel. The missile will keep flying if it misses its original target and look for other enemy radar targets.

The Pentagon has long dipped into aging stocks of equipment to supply Kyiv, sometimes leaving Ukrainian forces troops with worn-down matériel. An American officer, who spoke on the condition of anonymity because he was not authorized to speak publicly about the missile’s use, added that the AGM-88B that struck the apartment in Kramatorsk almost certainly came from old surplus stocks, as it has been replaced by a newer model in service with American forces.

The missile is just one munition of many sent by the United States and other countries providing billions of dollars in lethal aid to Ukraine, and the Pentagon has announced four separate military aid packages for Kyiv since August that have included AGM-88 missiles.