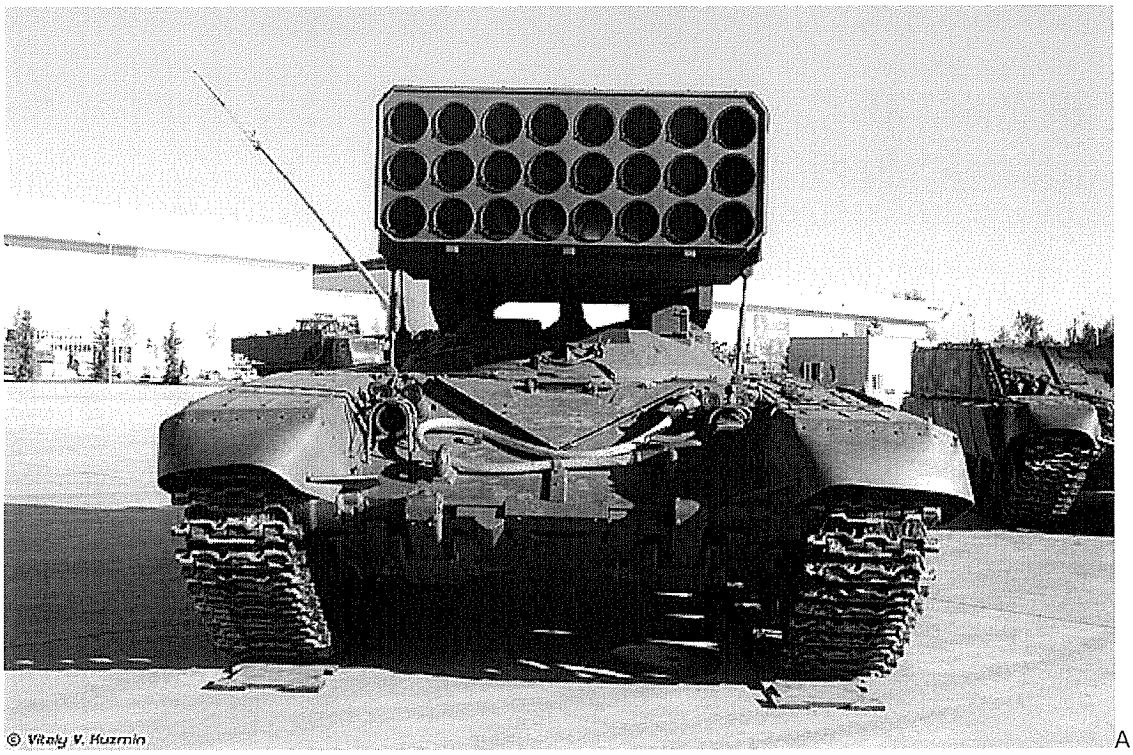
Iraq Moves Its Terrifying Thermobaric Rocket Tanks to Mosul

MOTHERBOARD

Written by **Robert Beckhusen**

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A Russian TOS-1A Buratino. Photo: Vitaly V. Kuzmin

Iraqi troops fighting for Mosul's outskirts have brought along one of their most fearsome weapons: the 60-ton, Russian-made TOS-1A Buratino.

A photograph and tweet from the *Jerusalem Post*'s Seth Frantzman shows Iraqi troops posing with the rocket launcher near Bartella, a battle-scarred Assyrian Christian town less than 10 miles from Mosul. Iraqi Counter-Terrorism Service troops took over the town on October 20, one of dozens freed since the offensive began October 16.

But Mosul is different as Iraq's densely populated, second largest city. And the Islamic State has had more than two years to plan and prepare ambushes, tunnels and improvised explosive traps.

"They've had a long time to prepare for that fight, so all of that we're going to contend with here very, very soon," Gen. Joseph Votel, commander of US forces in the Middle East, told NBC News during a visit to an American forward base.

Which might explain why Iraq brought along its TOS-1As. See, the Buratino—meaning Pinocchio—is unlike conventional artillery which lob high-explosive shells at long ranges. It's more terrifying than that.

The TOS-1 is relatively shorter range and kills almost entirely with *pressure*.

Each of the launcher's 24 thermobaric rockets contains a flammable chemical which disperses into the air above a target. Once dispersed, the rockets detonate—and in a flash—devastate an area roughly 200 by 300 meters wide. The fuel-air blast has a hideous effect on the human body, rupturing internal organs and suffocating the lungs.

As brutal as that is, the Buratino is precisely the kind of weapon the Iraqi army would want if it was worried about dug-in infantry, such as Islamic State fighters hiding in tunnels.

But at the same time, Mosul is also full of civilians.

"In general, the TOS-1 or TOS-1As fills the same niche as the RPO series flamethrowers, but on a much larger scale," analyst Charles Bartles wrote in a report for the US Army's Foreign Military Studies Office. "They will most often be utilized in urban warfare settings, bunker busting, and clearing light infantry."

Iraq received at least four TOS-1As from Russia in 2014. The launcher rests on a T-72 tank chassis. The Russian army heavily fired Buratino rockets at cities in Chechnya during the 1999 war.

One of the Buratino's biggest liabilities is its range of around 6,000 meters. By comparison, the US Army's Paladin guns and HIMARS rocket artillery—both deployed to Iraq—can blast enemies from 11 and 298 miles, respectively.

This makes the TOS-1A more vulnerable to attack, and it'd be unwise to be anywhere near one—and its thermobaric rockets—were it to explode. A unconfirmed video apparently depicting a missile attack on a Syrian army Buratino in 2016 shows why.

And as War Is Boring's Sebastien Roblin points out at *The National Interest*, the rockets' blast radius poses a significant danger to civilians, such as in densely-populated Mosul.

During the 2015–2016 battle for Ramadi, the Iraqi army devastated swathes of that city with artillery. But during the battle for Hit, where the Islamic State prevented civilians from fleeing and used them as human shields, Baghdad reigned its artillery in.

In Mosul, like in Hit, the terror group is repeating the same war crime, according to the United Nations, as has executed hundreds more. As a result, thousands of ordinary people are in danger.

This post originally ran on War Is Boring.

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Apple Rumored to Remove Old-School USB Ports on Next Macbook Pro

Written by Madison Margolin

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First the headphone jack, now the USB port? Rumor has it that Apple may get rid of the USB 3.0 port and the Magsafe port (where the charger plugs in) on the next generation of MacBooks.

Japanese tech site Macotakara, which accurately predicted that Apple would kill the headphone jack on the iPhone 7, now also claims that the USB port is on the way out. The move would be similar to Apple's latest 12-inch MacBook and its streamlined profile.

There's also word that Apple may discontinue the 11-inch MacBook Air to focus instead on the 13-inch laptop. Discontinuing the 11-inch MacBook Air would also potentially boost sales on the 12-inch MacBook.

If these rumors are in fact true, then the new MacBooks will have only a USB-C and Thunderbolt 3 ports. Both of these ports are about the size of the part of an iPhone charger that plugs into the phone. But since most laptop accessories still plug in via the USB port, Apple owners might have to use an adaptor, or upgrade their technology. Meanwhile, the new MacBooks would likely be charged through the USB-C port or Thunderbolt 3 port.

Currently, Apple already sells a USB-C dock with other USB and HDMI ports for $79.

The USB-C port uses USB 3.1 Standard, according to PCWorld, which will connect to a wide variety of accessories, such as external hard drives, cameras, and printers. The USB 3.1 can also transfer data between the host computer and the peripheral accessories at a speed of 10 gigabits per second, which is twice as fast as the USB 3.0.

Macotakara also hinted that Apple would reveal the new MacBook Pro later in October, including 13.3-inch and 15.4-inch models. The new MacBook Pro may also have an OLED (organic light-emitting diode, or a lighting panel) touch bar above the keyboard, which could replace the physical function keys and add more flexibility.

However, as *Engadget* reports, Macotakara had released similar information in June about the OLED touch bar launching in August, and that never happened. The Inquirer reports that the new MacBooks could launch as soon as October 27.

While all these developments are currently just speculations, it will be interesting to watch how Apple products change, and how we're forced to adapt—literally and figuratively.

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