

# Armored Vehicle Development Behind the Curtain: the Secret Life of the Soviet SU-122-54 Assault Gun

by retired MAJ James M. Warford

*(Editor's note: The author introduced two "mysterious" post-World War II Soviet assault guns, the "IT-122" and "IT-130" in his article, "T-64, IT-122 and IT-130: the Soviet Advantage," (ARMOR, September-October 1985). First introduced to the West in the writings of the infamous Soviet army defector, Viktor Suvorov, these two vehicles were initially discounted by Western analysts and labeled as fabrications. The IT-122, however – now known by the correct designation of SU-122-54 – has proven to be not only a real vehicle but a very important one for the Soviet army of the Cold War. While the "IT-130" remains a mystery, the SU-122-54 has finally emerged from "behind the curtain.")*

In September 1967, the Soviet military launched Exercise Dnepr, one of the largest exercises in Soviet military history. Most observers and military analysts focused both on the size of the exercise and the large-scale use of airborne forces. The Soviet army actually dropped two complete airborne divisions with all their equipment in support of a front-level offensive during the exercise. Almost unnoticed, however, the Soviet army also deployed a previously unseen new assault gun. This new assault gun, known as the SU-122-54 (to distinguish it from the SU-122 Self-Propelled Howitzer of World War II fame), has been the subject of controversy since this first appearance.

Throughout its lifetime, the SU-122-54 has been surrounded by a very high level of secrecy (even by Soviet standards), and it is a good example of the amount of effort the Soviets (and more recently the Russians), have historically put into keeping their most secret weapons developments secret. Over the years, this effort has proven to be especially true regarding Soviet anti-tank weapons.

In today's world, and on future battlefields, the challenge confronting the United States and the North Atlantic Treaty Organization (NATO) hasn't changed: seek out, identify and understand the vehicles and weapons still hidden in the shadows. Prior to a significant future event that could turn a new cold war hot, the U.S. and NATO must continue to focus on shedding some light on potential battlefield surprises like the SU-122-54.

## West didn't notice

The SU-122-54 Assault Gun (also referred to as a tank destroyer) was developed, fielded and retired by the Soviet army without really being noticed by the West. Interestingly enough, it did participate in both of the Soviet army's key milestone events of the 1960s: Exercise Dnepr (their army's premier go-to-war exercise) and the real-world Soviet/Warsaw Pact invasion of Czechoslovakia in 1968 (known as Operation Danube to the Soviets). Finally, so many years after these milestone events, the available information confirms that during its short and very secret lifespan, the SU-122-54 was a priority participant in the Soviet army's plan.



**Figure 1. An SU-122-54 in Pribram, Czechoslovakia, during Operation Danube, August 1968. (Hornickeho Museum, Pribram, Czech Republic; used with permission)**

To be fair, the SU-122-54 was actually noticed, but apparently only for a moment. A single photograph and a very brief description of this vehicle (misidentified as the “SU-100 M1968”), was included in the formerly top-secret U.S. report “Soviet Ground Force Weapons and Armored Vehicles” (August 1969), which is now unclassified. The photograph appears to be a still image taken from movie footage of Exercise Dnepr. According to the report, the SU-122-54 was “probably intended as a replacement” for the aging SU-100 Assault Gun. After this brief sighting, the vehicle seemed to disappear completely. In fact, it didn’t reappear in official U.S. military documents until the publication of the Marine Corps Intelligence Activity manual, *Soviet/Russian Armor and Artillery Design Practices: 1945-1995*, in September 1996.

## **Assault gun’s history**

The history of the SU-122-54 is interesting for a variety of reasons, including the place it occupies in the Soviet army’s forced transition away from guns and toward anti-tank missiles. Work began on the new assault gun at Omsk Tank Plant 174 in 1949. Known by the designation “Object 600” during its development, the design was focused on using many components from the T-54 tank. The first prototype was built in 1950, with factory testing in 1951. In 1953, three prototypes completed military trials with the Soviet army. In spite of some initial problems with minor design flaws and poor workmanship (and after necessary changes were made), the SU-122-54 was adopted in March 1954.

In 1955, four of the 36-ton SU-122-54s were delivered to the Soviet army. This new assault gun mounted the D-49 122mm rifled main gun, along with two KPVT 14.5mm heavy machineguns (one mounted coaxially and one at the loader’s position for air defense). It was also fitted with the rarely seen TCD-09 stereoscopic rangefinder at the commander’s position. This rangefinder was adjustable from 4x to 10x and worked from 500 meters out to the 5,000-meter range. The vehicle was manned by a five-man crew: commander, gunner, driver and two loaders (positioned on either side of the main gun).



**Figure 2. Views of SU-122-54 on display in the Central Museum of Armored Vehicles at Kubinka, Russia, April 2012. (Photo by retired MAJ James M. Warford)**

The SU-122-54 was only in production from 1955-1956, with work stopped in 1957. This short production run provided between 77 and 95 vehicles to the Soviet army. The exact number of SU-122-54s produced is still unknown. Based on the production numbers of its 122mm main gun (unique to the SU-122-54), this estimate is the best information available.

It's important to keep in mind that this small production run should not be seen as an indicator of performance limitations or problems with the SU-122-54. In fact, large-scale production was planned and approved for the new assault gun, and a number of upgrades were planned – including changing to the more powerful M-62C 122mm main gun and adding infrared night-vision equipment. The real problem with the SU-122-54 was the timing of its arrival. The pro-missile/anti-gun preferences voiced loudly by Soviet leader Nikita Khrushchev in those days (to include even challenging the military value of tanks in general) forced production of the SU-122-54 to stop.

Surprisingly, it wasn't until several years after its production had ended that information regarding the value and role played by the SU-122-54 began to emerge. As mentioned, it was used during Exercise Dnepr in 1967 and was unexpectedly filmed and photographed during the exercise. In addition to the film footage described above, the SU-122-54 can be seen in a few photographs that show massed and parked Soviet army units, apparently lined up for inspection. Two of these photographs show the assault guns parked in rows alongside several *Boyevaya Razvedyvatelnaya Dozornaya Mashina-1* anti-tank guided missile vehicles. These photographs clearly support Suvorov's assertions that these assault guns were deployed as part of motorized rifle regiments (MRRs). Based on what we know now, however, Suvorov's claims that every MRR inside the Soviet Union secretly included a battery of SU-122-54s is clearly a massive exaggeration.

It's important to keep in mind here that most of Suvorov's critics claim his assertions were pure fantasy and that he fabricated information he thought his post-defection audience would like to hear. What we've learned in recent years, however, is that there is simply no doubt that some of the information he brought to the West and included in his books and articles is absolutely correct. That said, a more accurate critique of Suvorov's writings should include something about a problem of scale more than a problem of wholesale fabrication. Clearly, there were enough of these assault guns produced to support the fielding of about eight to 10 nine-vehicle batteries – one each in eight to 10 select MRRs.

The Soviet/Warsaw Pact invasion of Czechoslovakia in August 1968 (Operation Danube) was a pivotal event for the Cold War Soviet army. This large-scale mobilization and deployment of Soviet and Warsaw Pact forces represented a dress rehearsal for World War III. According to the formerly top-secret U.S. report, "Warsaw Pact Ground Forces Facing NATO" (September 1969), which is now unclassified: "The Czechoslovak crisis provided the only recent large-scale test of Soviet mobilization and deployment procedures. About 20 divisions were mobilized, including some 11 of those with low peacetime manning and equipment levels. At least five armies were apparently mobilized – three of them and about 10 of the mobilized divisions were used against Czechoslovakia. In all, at least 125,000 Soviet reservists and 20,000 trucks were called up."

Along with Soviet forces from the Group of Soviet Forces Germany (GSFG), Northern Group of Forces-Poland and Southern Group of Forces-Hungary, Soviet forces from the Carpathian, Byelorussian, Baltic and Odessa military districts (MDs) mobilized and moved west into Eastern Czechoslovakia (now Slovakia) and into Poland.

Soviet forces based in the western MDs of the Soviet Union play an important role in the history of the SU-122-54. In his writings, Suvorov clearly defined the plan for the peacetime deployment of the SU-122-54. To keep these important vehicles away from prying eyes, they were only deployed in the western MDs, far away from the attention they would have received had been forward-deployed with the GSFG, etc. The launch of Operation Danube, however, moved these forces and their SU-122-54s out of the shadows and into Czechoslovakia and Poland. The SU-122-54s were involved throughout the invasion, and their use seemed to be kept out of the spotlight as much as possible (they were not deployed in Prague, for example). However, they were photographed in five cities in Czechoslovakia: Kosice, Roznava, Ziar nad Hronom, Ceske Tesin and Pribram.

In addition to being photographed in both Kosice and Roznava, the new assault guns were also filmed. While all these vehicle sightings are significant and confirm the widespread deployment of the SU-122-54 during the invasion, two of them deserve special attention: Ceske Tesin and Pribram. The city of Ceske Tesin is located on the border between Czechoslovakia and Poland on the Czech side of the "Friendship Bridge." It was originally a united town with its Polish counterpart Cieszyn, now separated on the Polish side of the bridge. On Aug. 21, 1968, Soviet forces moved through Poland and crossed the bridge to enter Czechoslovakia. A few photographs were taken of the Soviet forces as they crossed, including one of an SU-122-54 at the moment it entered Czech territory. In Pribram, one of the assault guns was photographed at a bus station that was arguably the best photo of the SU-122-54 from the invasion. What makes the Pribram sighting so interesting is the location of the city itself: southwest of Prague only about 65 miles from the West German border.

Since the very reliable reporting provided by the allied military-liaison missions based in East Germany (American, British and French), had made no mention of SU-122-54s in East Germany, the assault guns spotted in Pribram must have come from somewhere else. The most likely answer to the mystery of how these SU-122-54s got so deep into western Czechoslovakia unnoticed can be found in the formerly top-secret U.S. report, "Soviet and East European General Purpose Forces" (October 1968), which is now unclassified: "Between July 17 and Aug. 10, 1968, the 11<sup>th</sup> Guards Army (from the Baltic MD), was fully mobilized and began a movement into north-central Poland. By the end of August, it was located in the area of the East German-Czechoslovakian border."

Based on this report, the SU-122-54s spotted in Pribram probably moved south into western Czechoslovakia from Poland, along with units from 11<sup>th</sup> Guards Army. At the conclusion of Operation Danube, the majority of Soviet forces from the western MDs returned to the Soviet Union. While certain Soviet units remained to form the new Central Group of Forces based in Czechoslovakia, all the SU-122-54s were moved back to Soviet territory.

## Post-production

After Operation Danube, the SU-122-54s were never seen again ... at least not in their Soviet assault-gun form. In the 1970s, a Soviet TV series set during World War II called "The Ruins of Fire" aired that included a battle scene between Soviet and German forces. The Germans were actually supported by a few SU-122-54s made up to look (vaguely) like German assault guns from World War II. The TV series is still available on the Internet.

In 1977, a new armored recovery vehicle (ARV) was spotted in Moscow supporting the annual November parade in Red Square. U.S. Army Field Manual FM 100-2-3 included a photo of this vehicle along with the incorrect designation T-62-T. The vehicle was actually a heavily modified SU-122-54 with the main gun removed; it was used as a "tug" or recovery vehicle in case any of the parade vehicles broke down. This recovery vehicle was also seen during Red Square parades in 1985 and 1995.

There has been speculation over the years that the decision to show the "tug" version (and other more widely used recovery and engineer vehicles based on the SU-122-54) was deliberate misinformation by the Soviets. The theory is that the Soviets were admitting that they did in fact secretly work on post-war assault guns but the effort was unsuccessful, resulting in a relatively small number of ARVs and combat-engineer vehicles. Seen as different variants since that first appearance in Red Square, these modified vehicles have served in Afghanistan, Lebanon (with United Nations Interim Force in Lebanon forces) and currently in Ukraine. One of the most interesting SU-122-54 variants was photographed in Chernobyl after the disaster clean-up effort. This recovery vehicle was

modified with the addition of an exterior layer of lead plates to help protect the crew from residual radiation during clean-up operations.

The SU-122-54 Assault Gun was developed, put into production, fielded and retired from Soviet army service basically without being noticed by the United States and NATO. This significant miss is much more the result of Soviet process and planning than the small numbers of vehicles that rolled off the production line. The SU-122-54 was successfully kept secret at a time in history when learning military secrets was the overwhelming priority. This is made even more significant by the vehicle's participation in the Soviet army's highest-priority events of the time.

In contrast to the secretive SU-122-54, the very public unveiling in 2015 of the new Russian T-14 Armata tank was intended to send a loud and clear message to friend and foe alike. Surprisingly, the Russians have been very forthcoming with information about the whole Armata family of armored vehicles, certainly more than what was expected. While there are clearly well-kept secrets regarding the Armata prototypes that rumbled through Red Square, their public unveiling should be a cause of concern to observers around the world.

Perhaps the most important lesson to be learned from historic examples like the SU-122-54 is that there is always something being developed "behind the curtain." Without ignoring what is marched through Red Square, the United States and NATO must maintain their focus on shedding light on the unseen weapons being developed and fielded inside Russia. They live their lives in secret until critical events suddenly force them out of the shadows to the forefront – and the next battlefield.

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