



UNITED STATES SUBMARINE VETERANS



“To Honor Those Who Serve, Past, Present & Future”

July 2023

Volume 24, Issue 07

**Lest We Forget —
“The USSVI Submariner’s Creed”**

To perpetuate the memory of our shipmates who gave their lives in the pursuit of their duties while serving their country. That their dedication, deeds, and supreme sacrifice be a constant source of motivation toward greater accomplishments. Pledge loyalty and patriotism to the United States of America and its Constitution.

Inside This Issue:

Meeting minutes	2
Lost Boats	2
Russia’s Alfa-Class	2
Russia’s ‘Black Hole’	4
Russian Sub Activity	5
Russian Simulation	6
Sub Parts Dispute	7
Base Contact Info	10

News Brief

1. **Next Meeting:** At 1100, third Saturday of each month at the Knollwood Sportsman’s Club. Mark your calendars for these upcoming dates:
 - a. **July 15**
 - b. **August 19**
 - c. **September 16**
2. **Duty Cook Roster:**
 - a. JULY - CLAY HILL
 - b. AUGUST – SEE YOUR NAME HERE!
 - c. SEPTEMBER -
3. **July Birthdays:** Cristino Pascual 24th; Herman Mueller 31st. Happy Birthday, Shipmates.

Crash Dive Meeting Minutes June 17, 2023

Meeting was cancelled due to planned
absence of officers.

Lost Boats

USS S-28 (SS-133)	07/04/44
USS Robalo (SS-274)	07/26/44
USS Grunion (SS-216)	07/30/42

Alfa-Class: Russia's Fast and Deep Diving Super Submarine Had One Flaw

Story by Peter Suci • Apr 26



Lira-Class or Alfa-Class Submarine © Provided by
1945

Meet The Alfa-class – Russia's Fast Attack Submarine That NATO Feared: Between 1968 and 1981, the Soviet Union produced a total of seven Project 705 Lira (NATO reporting name Alfa) nuclear-powered attack submarines. The boats were cutting edge when they were produced, and in addition to the then-revolutionary use of titanium for the hull, each of the subs utilized a powerful lead-bismuth cooled fast reactor (OK-550 or BM-40A, 155-MWt) as its power source.

That greatly reduced the size of the reactor, and in turn reduced the size of the submarine and allowed for high speeds. The submarines displaced 2,300 tons surfaced/3,200 tons submerged and were just 267 feet in length and had a beam of 31 feet.

Notable Project 705 Lira or Alfa-class Facts:

The submarines were reported to be the world's fastest and deepest diving of their era and could reach a top speed of 41 knots submerged.

The boats could get to top speed in just about sixty seconds and do a 180-degree reverse at full speed in as little as forty seconds.

However, surfaced, the *Alfa*-class boats could only achieve around 12 knots. It should be noted that the Soviet's experimental nuclear-powered cruise missile submarine K-222 reached a submerged speed of 44.7 knots – but it was only a prototype.

Thanks to the use of titanium, which can tolerate higher pressures better than steel, the boats had a testing depth of 350 meters (1,148 feet), [well below the reach](#) of NATO anti-submarine weapons of the time. This could enable an *Alfa*-class sub to "theoretically" sit below the reach of [NATO vessels](#) while launching its own weapons.

In addition, the titanium hull proved more resistant to corrosion and also made the submarine even harder to detect as [it is paramagnetic](#).

The boats, which featured a very high level of automation, required a rather small crew, which was made up exclusively of thirty-two officers and warrant officers. Originally it had been planned that just sixteen officers could operate the submarine.

In addition, the tiny crew was housed in the central compartment of the submarine, while the forward section contained the weapons system and electronics. It was only accessed for maintenance, as were the rear reactor and propulsion compartments. Many of the operations were completely automated, such as torpedo loading. That would have increased crew survivability in the case of war because the forward and aft compartments could be sealed off during combat operations.

The Project 705 *Lira* was also the first submarine to be [equipped with an escape capsule](#); it even provided a safe exit for the entire crew from maximum depth. Such features became standard on Russian boats.

Flawed: Those Alfa-Class Subs Were Loud

Despite its advanced features and capabilities, the *Alfa*-class boats had some notable Achilles Heels – first,

they were loud. The noise generated from the boats was easily detectable. Another problem is that at the time, working with titanium wasn't easy. Russia had an advantage in that it was a major supplier of titanium, but bending and shaping the metal panels proved difficult. Titanium is also very unforgiving and there was also a high risk of imperfections within the metal that could have resulted in a catastrophic failure – especially for a submarine operating under extremely high pressures.

Alfa-Class: Too Expensive and Too Many Flaws?

In the end, Project 705 *Lira* or *Alfa*-class was simply too expensive to mass-produce. In fact, after the lead boat, K-64, suffered a major reactor problem in 1972 – just a year after she entered service – the submarine was towed back to Severodvinsk where it was deemed too expensive to repair. Instead, K-64 was split in half and used to train Soviet submariners. The remaining six boats continued in service – until April 1990 when [five were decommissioned](#) and scrapped. The final boat was eventually decommissioned in July 1996 and also scrapped.

You catch the *Alfa*-class submarine in the fictional movie the Hunt for Red October where one of the subs had a prominent part. You can see below the *Akula*-class, what came after the *Alfa*.



Akula-Class Submarine © Provided by 1945

Akula-Class Submarine. Image Credit: Computer Generated Image, Screenshot.



Akula-Class Submarine © Provided by 1945

K-322 Cachalot, Akula class submarine underway. A port quarter aerial view of the Russian Northern Fleet AKULA class nuclear-powered attack submarine underway on the surface.

Now a Senior Editor for 1945, Peter Suci is a Michigan-based writer who has contributed to more than four dozen magazines, newspapers and websites. He regularly writes about military hardware, and is the author of several books on military headgear including [A Gallery of Military Headgear](#), which is available on Amazon.com. Peter is also a [Contributing Writer](#) for Forbes.

Russia Set to Deploy Stealth Sub Dubbed 'Black Hole' to Pacific

Newsmax, Monday, June 5, 2023 10:14 PM
By: Michael Katz

Russia is set to deploy one of the quietest attack submarines in the world, nicknamed "black hole," to the Pacific Ocean sometime this fall.

[Newsweek](#) reported, citing Russian state-owned media outlet Izvestia, the diesel-electric submarine, which was commissioned in November, will move from the Baltic Sea to the Pacific at an unspecified date in the fall.

The Ufa, one of Russia's Project 636.3 diesel-electric submarines, is touted as an advanced stealth vessel. The U.S. Navy and NATO have referred to the submarine as a "black hole" because it is said to be among the world's quietest submarines.

Russia's Pacific Fleet forces started operational exercises Monday in the Sea of Japan and the Sea of Okhotsk that will last until June 20, [Reuters](#) reported, citing Russia's Defense Ministry.

According to [TASS](#), the subs are about 240 feet long and displace more than 3,900 tons. Because of their strong hulls, the submarines have an operational depth of 787 feet

and can dive to a maximum depth of 984 feet. The submarines have an operational range of up to 7,500 miles. They are armed with Kalibr-PL cruise missiles that are launched from torpedo tubes.

The U.S. Navy has 71 submarines, all nuclear-powered. Russia's submarine fleet of 58 has a large percentage of diesel-electric-powered subs, with 21 compared with 37 that are nuclear-powered, according to the nonprofit [Nuclear Threat Initiative](#).

In a March [analysis](#), the NTI said Russia signed a contract for six Project 636.3 submarines in 2016, with the first submarine launched in March 2019.

In November, Admiralty Shipyards, which produces the Project 636.3 submarines, said the fourth vessel, the Ufa, was accepted into the Pacific Fleet. The fifth submarine in this series, the Mozhaisk, was launched in late April. The sixth and final vessel, the Yakutsk, is scheduled to be handed over to Russia's Navy in 2024.

US: Atlantic Russian Sub Activity Highest 'We've Seen in Years'

Newsmax, Thursday, April 27, 2023 10:48 AM
By: Eric Mack

Russian submarine activity has increased in the Atlantic — potentially reaching Cold War levels — and has U.S. military officials concerned Wednesday.

"The Russians have been more active than we've seen them in years," Army Gen. Chris Cavoli, U.S. European commander, [told the House Armed Services Committee](#), testifying on the U.S. [military posture and national security](#) challenges in Europe.

"And their patrols into the Atlantic and throughout the Atlantic are at a high level most of the time, at a higher level than we've seen in years — and this is despite all the efforts they're undertaking inside Ukraine."

Cavoli noted the addition of Finland into NATO "brings a very competent navy" and "a large and growing air force."

"The accession of Finland is very strong," Cavoli said. "The future, we hope, accession of Sweden brings much of the same."

"The Swedish navy is very active, very confident, and very powerful in the Baltic Sea area. And this will give us a huge additional capability to control all

three domains, classical domains, in the high north."

The topic was raised by Rep. Joe Courtney, D-Conn., the chair of the House Armed Services Subcommittee on Seapower and Projection Forces.

"It's a team sport in terms of all of our allies working together to sort of, hopefully, manage that, and keep it under control," Courtney said in response to Cavoli's warnings. "These are two countries with very advanced capabilities, so I think it is going to a force multiplier."

There has been a narrative the Russian military is depleted with the war in Ukraine grinding down its forces, but Cavoli warned against that talk, noting Russia remains the primary threat to the U.S. in the Atlantic.

"Russia still retains strategic capabilities: an air force, cyber, and underwater," Assistant Secretary of Defense for International Security Affairs Rep. Joe Courtney, D-Conn told Rep. Mike Waltz, R-Fla., during Wednesday's hearing.

"We should not make the mistake of underestimating Russia's military capabilities, because the stakes of getting it wrong are too high."

Russian Sub Simulates Attack on Carrier Strike Group in Pacific

Newsmax, Wednesday, April 19, 2023 03:58 PM
By: Michael Katz

A Russian nuclear-powered submarine performed a drill in the Pacific Ocean on Wednesday that simulated the destruction of a mock aircraft carrier strike group.

Russian state news outlet [Interfax](#) reported the Tomsk submarine performed the exercise using 22 Granit anti-ship cruise missiles at targets about 125 miles away.

The simulation was part of exercises by Russia's Pacific Fleet that started Friday to assess its combat readiness.

"The nuclear submarine Tomsk, as part of a sudden check of the combat readiness of the Pacific Fleet, was put on full combat readiness," Roman Velichenko, the vessel's commander, said, according to Interfax. "It deployed to the area of execution of combat training tasks for its intended purpose: the destruction of enemy aircraft carrier strike groups, landing units and convoys."

Ships and submarines of Russia's Pacific Fleet moved from their bases to the Sea of Japan, the Sea of Okhotsk, and the Bering Sea, the Russian Defense Ministry said Friday, according to Interfax.

Russian Defense Minister Sergei Shoigu said more than 25,000 servicemen; 167 ships, including 12 submarines; and 89 aircraft and helicopters, were participating in the exercises since Friday. After the exercises are over, "the fleet's forces will return to their permanent deployment points," Shoigu said.

Russia's navy has been more active in the Pacific than in past years, likely as a result of the war with Ukraine and deepening ties with China. In December, its Pacific Fleet held joint military exercises with China in the East China Sea, which included practicing how to capture an enemy submarine with depth charges and firing artillery at a warship.

A Year Without Sub Parts

By Marcus Weisgerber,
Global Business Editor, www.defenseone.com
May 8, 2023 09:09 PM ET



If the U.S. Navy wants new attack submarines faster, it needs to start ordering parts ASAP. That's the message from a top executive at Newport News Shipbuilding, one of the two yards that jointly build all of the Navy's submarines.

The service hasn't awarded contracts for Virginia-class submarine parts since early 2022, thanks to a dispute with General Dynamics Electric Boat—NNS's partner—over who is liable if a Tomahawk cruise missile accidentally damages a ship. The delays have concerned lawmakers who referenced the so-called indemnification dispute in the fiscal 2023 National Defense Authorization Act.

But the delays have also prevented EB and NNS from ordering bespoke parts for new submarines at a time when the Navy wants to increase Virginia-class submarine production for itself and also sell them to Australia.

"The suppliers clearly could have and would have started a year or more ago if the funding had been there," NNS President Jennifer Boykin said Friday on the eve of the christening of the Virginia-class submarine Massachusetts (SSN 798). "As we look forward and we scheduled the next block of boats, those delivery dates will play into what schedule we agree to with the Navy."

NNS is a division of HII, which also builds aircraft carriers.

Submarines' ability to move undetected under the water make them a key U.S. weapon, particularly as the Pentagon reorients to counter China's military build-up in the Pacific. The Biden administration has been making investments in submarine parts and technology and collaborating with the

United Kingdom and Australia to develop new submarines under the AUKUS pact.

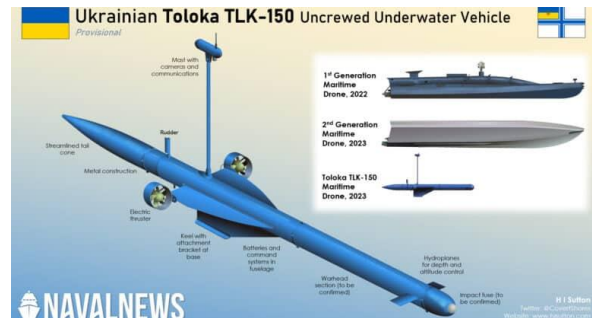
In late March, Navy Secretary Carlos Del Toro told lawmakers that the Virginia program was “significantly behind” its two-ship-per-year goal, USNI News reported.

On Friday, Boykin said that on-time delivery depends on having certain parts ordered well ahead.

“Any time you're late [with funding] at the beginning, it's going to have some impact on them late at the end,” she said.

Companies are still dealing with supply-chain problems, workforce shortages, and inflation that were created or exacerbated by the pandemic.

“In order for the assembly line to get healthy and to begin to increase the rate, the worst thing we can do as an enterprise is starve the beginning” of the supply chain,” Boykin said. “That's part of what we're really working with the Navy on—to get advanced funding to those suppliers who are already struggling with workforce, etcetera, is key if we're going to, in two or three or five years later, actually increase our throughput rate. When you start the beginning, because the end is not coming out, you're not going to change the scenario.”



The new weapon, the Toloka TLK-150, is much smaller than previous Ukrainian maritime drones. It likely has a much shorter range and slower speed, but should make up for that by being more stealthy and more survivable.

Innovative Submarine Drone Is Ukraine's New Weapon Against Russian Navy

Ukraine is becoming known for using unconventional naval vessels against the Russian Navy. It's 'maritime drones', which are robot boats loaded with explosives, have helped shape the war in the Black Sea. Now a new maritime drone has been revealed, one which operates like a small submarine.

[H I Sutton](#) 10 May 2023

Ukraine is quickly gaining a reputation for innovation and ingenuity. Faced with the Russian invasion, many inventors and small businesses are answering the call of national defense. New designs are surfacing all the time.

The Ukrainian government is doing its best to both harness this creativity, and bring it together in an efficient and coordinated way. A new group, [Brave1](#),

has recently been established to manage this.

One of the new weapons on show when Brave1 was officially launched is of particular interest from a navy perspective. It is a small robotic submarine, the [Toloka TLK-150](#) maritime drone.

Taking The Fight To The Russian Navy

Ukraine has already enjoyed significant strategic success pushing the Russian Navy, who initially dominated the northern Black Sea, into a defensive posture. The threat of anti-ship missiles, like the ones which [sunk the cruiser Moskva](#), have pushed the Russian Navy back over the horizon. And innovative weaponized uncrewed surface vessels (USVs) have helped keep them [penned up in their ports](#).

But the resulting void in the northern Black Sea is far from being a Ukrainian lake. The Russians can still operate there to launch missiles, or to support ground operations if the need arrives. And Ukrainian vessels, even the small USVs, can be picked off by Russian aircraft. So it is perhaps natural that Ukraine is developing robotic submarines, known formally as uncrewed underwater vehicle (UUV).

The TLK-150 is the first indigenous UUV revealed. The design is unconventional, showing its homegrown nature. It has larger stabilizers than other UUVs and much wider spaced propellers (propellers). This may not be a bad

thing, and it shows that it is not a mere copy of anything going before. This small weapon complements the now famous uncrewed surface vessels (USVs) which already threaten the Russian Navy in its main base at Sevastopol.

Design Of The New Maritime Drone

Ukraine has recently acquired some UUVs from Western governments. These are principally to support mine clearing efforts and include 6 [supplied via the United Kingdom](#). Some of this knowhow may have transferred to the new type, although the design and technology will be completely separate.

The TLK-150 is quite a small drone, being only 2.5 meters (8 feet) long. Unusually it has twin thrusters mounted on small wing-like stabilizers and a large keel. Combined with a separate rudder and forward mounted dive planes this should provide excellent agility.

There is a very tall mast with cameras and communications devices. The keel may be to balance this mast. It is possible that this can be used as a periscope for intelligence gathering missions close to the enemy shore. It might also allow 'human in the loop' navigation and aiming to carry out attacks.

Designs for two larger UUVs were also revealed by Brave1. The TLK-400 is over twice as long at 4-6 meters (13-20 feet). It also has a much larger diameter body inferring greater range and payload. The TLK-1000 would be much larger again,

up to 12 meters (40 feet) in length and with four thrusters. It is unclear whether these larger designs have been built.

Authors

Posted by : [H I Sutton](#)

H I Sutton writes about the secretive and under-reported submarines, seeking out unusual and interesting vessels and technologies involved in fighting beneath the waves. Submarines,

capabilities, naval special forces underwater vehicles and the changing world of underwater warfare and seabed warfare. To do this he combines the latest Open Source Intelligence (OSINT) with the traditional art and science of defense analysis. He occasionally writes non-fiction books on these topics and draws analysis-based illustrations to bring the subject to life. In addition, H I Sutton is a naval history buff and data geek. His personal website about these topics is Covert Shores (www.hisutton.com)

Crash Dive Base Contact Information

Commander – Clayton Hill, 195 Clover Lane, Cedarburg, WI 53012;
clay53012@yahoo.com

Vice-Commander – Bret Zacher; bret.zacher@gmail.com.

Secretary (POC) – Manny Garmendez, mgarmendez@gmail.com;

Treasurer – Bret Zacher; 6714 Indian Lane, Long Grove, IL 60047;
bret.zacher@gmail.com

COB – Frank Walter; fawalter@gmail.com

Chaplain – Vacant.

Membership – Vacant.

Storekeeper – Herman Mueller, 503 Lynn Terrace, Waukegan, IL 60085; 847-445-5034; hermanandlorimueller@comcast.net

Newsletter Editor – Chris Gaines, 513 West Downer Place, Aurora, IL 60506; 630-892-5718 or ccgaines@mindspring.com

Base Historian – Frank Voznak, Jr. 9 South 255 Madison, Burr Ridge, IL. 60527; 630 986-0175 franklin2@comcast.net