Beyond Submarines: Development and Use of CTOL Aircraft Carriers in the Soviet Union and Russian Federation, 1945-present

THESIS

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Abstract

Russian and Soviet thinking on the construction and use of aircraft carriers evolved from initial opposition to acceptance of the concept of aircraft-capable ships. However, the Russian Navy currently possesses only one CTOL-capable aircraft carrier, the Admiral Kuznetsov. This thesis examines the influence of social, political, and economic factors on the Soviet and Russian approach to carrier-based aviation and then considers the Moskva, Kiev, and Kuznetsov classes of carriers. The technical and personnel issues affecting the Kuznetsov’s operation in the post-Soviet period provide a framework for evaluating the future of proposed carrier programs for the Russian Navy. In light of Russian ambitions on the world stage, public statements by naval leadership, and a marked increase in Navy spending on new ships, a continuation of Russia’s carrier ambitions seems likely.
Dedication

This thesis is dedicated to my parents, for encouraging me to follow my interests and to stay the course.
Acknowledgments

I would like to thank the staff of the library at the Naval War College for permitting me to avail myself of their collection. This thesis would not exist without the War College’s materials.

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I owe my parent more gratitude than I can express for the support they’ve provided throughout the process.
Vita

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Chapter 1: Introduction

The lethal stealth of Soviet submarines has long captured the Western imagination. Capable of delivering large-scale destruction without warning, submarines embodied the fears of the Cold War. As the specter of nuclear Armageddon faded, the Soviet Navy became increasingly interested in more overt symbols of naval power, which culminated in the construction of the Admiral Flota Sovetskogo Soiuza Nikolay Kuznetsov (Fleet Admiral of the Soviet Union Nikolay Kuznetsov) in 1985.

The Kuznetsov, the Russian Navy’s carrier, is something of a “dog that didn’t bark.” Previous attempts at creating a class capable of embarking aircraft had resulted in the Moskva class of helicopter carriers and the Kiev class, which carried Vertical Take-Off and Landing (VTOL) aircraft, but only the Kuznetsov class of carriers could embark conventional fixed-wing aircraft. Despite blue-water ambitions, the Kuznetsov’s force projection capabilities remain virtually untapped. Timing explains part of the issue – the geopolitical situation shifted dramatically between the Kuznetsov’s planning and launching stages. The dissolution of the Soviet Union is not the sole culprit in the Kuznetsov’s undistinguished service – technical problems, military culture, and personnel problems have all contributed, as well. As the Russian Federation rebuilds its strength, new solutions to some of these issues have appeared on the horizon. Whether revamping the existing carrier or constructing new ones, the Russian Navy remains interested in the carrier concept.
This thesis aims to synthesize the existing body of work pertaining to the Soviet development of, and the Soviet and Russian deployment of aircraft-carrying ships, particularly the conventional take-off and landing-capable Admiral Flota Sovetskogo Soyuza Nikolay Kuznetsov, the sole wide-deck carrier of the modern Russian fleet. Moreover, this thesis considers the current and future possibilities for the use of the Kuznetsov and the construction of similar ships, a topic largely ignored since the break-up of the Soviet Union, and which has not been considered in light of the Russian Navy’s recent return to surface-ship construction.

Following this introduction, the second chapter provides a brief look at changing Soviet opinions on the role of the surface fleet, beginning with the October Revolution and running through the dissolution of the Soviet Union. This is by no means a comprehensive history, but rather an attempt to highlight key points in the development of the Soviet carrier program. The third chapter details the carrier projects, examining both technical and cultural aspects. The fourth chapter considers the Kuznetsov’s service in the post-Soviet period, while the final chapter looks forward to the future of the Kuznetsov and carrier-based aviation in the Russian Federation.

Sources

Much of the information regarding Soviet naval developments and posture during the Cold War and late Soviet period comes from Western naval analysts and intelligence sources. These sources provide invaluable insight into the technical aspects of the Soviet Navy; however, they also reveal a propensity to acknowledge the Soviet practice of
countering Western naval developments with uniquely Soviet technologies, and then to assume that the Soviets will be mirroring Western technology. ¹

This is particularly apparent with regard to the development of aircraft carriers. Up until the launching of the Kuznetsov, Western analysts repeatedly affirmed that the indigenous Soviet carrier would use steam catapults and nuclear propulsion, just like American carriers. This orientation among Western analysts also creates a problem when dealing with the incomplete Kuznetsov hull 2, the Varyag, and the incomplete Ul’ianovsk large deck carrier, as much of the information concerning these two ships is based on a mixture of conjecture and overhead imagery, the latter of which is not available to the broader public. A tendency among Western analysts to assume continuation of the status quo with regard to Soviet naval developments also biases reporting regarding these two ships, despite Soviet willingness to make substantial alterations between hulls on ships of the same class to correct major shortcomings.²

Russian and Soviet sources present a different set of interpretation issues. Much of the military reporting comes through official state-sanctioned press organs, including the naval journal Morskoy Sbornik (literally, “Maritime Gathering”) and the official military newspaper Krasnaja Zvezda (“Red Star”). The official nature of these publications implies a measure of censorship, both self- and externally-imposed. Although this censorship was certainly much greater during the Soviet period, it likely continues in the present incarnations of these publications, meaning that much of the

¹ Soviet analysts display a similar tendency – much of their anti-submarine orientation appears predicated on a belief that Western navies rely as heavily on submarines as the Soviets did.
² This tendency shows up in early carrier production – between the Kiev (Kiev class hull 1) and the Gorshkov (Kiev hull 4), there is a nearly 2,000 ton difference in displacement, as well as significant alterations in missile systems.
information contained therein is state boilerplate, which gives less insight into the actual functioning of the navy.

The increased availability of internet access within the Russian Federation creates new opportunities for to access Russian media sources, which in turn allows the evaluation of a greater range of viewpoints. This access is a double-edged sword, however, as it increases the possibility of over-representation of minority viewpoints, a possibility increased by the failure of some traditional publications (notably Morskoy Sbornik) to achieve any sort of internet presence. This thesis attempts to balance these two extremes by including sources from both official publications and smaller presses.

Determining the true status of any given ship in the Russian Navy can be difficult, as ships remain “in service” well beyond their active period, and unused ships may continue to fly an ensign as a means of guaranteeing pay for their remaining crew members. For the purposes of this thesis, ships are treated as being in-service until they are officially decommissioned and/or sold.

**Translation and Transliteration**

All Russian names are presented in transliteration from the original Russian. On the whole, the transliterations adhere to a modified version of intelligence community standard transliteration, but well-known names are used in their most common transliteration (Boris Yeltsin instead of Boris El’tsin, for example). Works consulted in

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3 A prime example of this is general Western embrace of the late Anna Politikovskaya’s Novaia Gazeta. Ascribed great importance in the West, the newspaper actually has vanishingly small circulation within the Russian Federation.


5 The use of an apostrophe to denote a soft sign has been added to the IC standard transliteration.
translation are cited with the appropriate English title, and all other translations from Russian sources are the author’s own.
Chapter 2: The Soviet Surface Fleet: A Brief History

Although often described as a country “washed by the waters of thirteen seas,” Russia has historically conceived of itself and acted as a land power. Russian and Soviet naval advocates have strenuously objected to this characterization; however, the difficulty of obtaining year-round access to the sea limited naval development. As a result of this land-power presumption, the Russian navy has long had a curious relationship with the state and the military. In particular, the surface fleet’s role frequently became an object of dissent. While the utility and necessity of submarines went uncontested following the advent of submarine-launched ballistic missiles, the purpose of large surface combatants attracted greater questioning.

Despite Peter the Great’s investment in the creation of a modern navy, naval development frequently took a back seat to the army’s needs, as numerous foes threatened the Russian Empire from land-based approaches. The prevalence of overland threats continued under the Soviet Union, most notably the Nazi Army’s sweep across the western frontier during the Great Patriotic War. Traditionally, army interests dominate the General Staff, who see the navy as a means of supporting army operations more than as an independent service. Due to the nature of the Soviet system, the opinions of individual General Secretaries also greatly affected naval issues.

The October Revolution and Civil War

Distrust between the Communist Party and the navy began early in Soviet rule. Sailors played a key role in the October Revolution, helping to unseat the tsar and
igniting the Russian Civil War in 1918. However, these same sailors, unhappy with the actions of the Bolshevik government and the institution of war communism, were brutally put down by government forces during 1921’s Kronstadt Uprising.

Following the events in Kronstadt, the early Soviet navy possessed an air of political unreliability, a deadly affliction in the ideology-permeated atmosphere of Bolshevik rule. The elevation of the common sailor and the loss of a substantial portion of the officer corps to the White cause effectively crippled the fleet’s remaining leadership well past the war’s conclusion. The army also suffered a loss of discipline and leadership; however, the Civil War provided far more opportunities for Bolsheviks in the army to prove and develop their military prowess than for their naval comrades. Many sailors saw more action after being reassigned to the trenches than they ever did afloat. The readiness with which sailors transferred from ship to shore only underscored the navy’s role as a supplement to the Red Army.6

Ideological correctness informed every decision made in the Soviet Union, especially in the days following the revolution. As a result of Bolshevik belief in the inherent determinism of a state’s economic system, military planners ruled that Bolshevik, and later Soviet, military policy must bear no resemblance to that of capitalist states. Thus, as Western navies acquired large surface ships, the early Soviet state shied away from them, claiming that “the limited utility demonstrated by ships-of-line during World War I was indicative of their impending decline.”7

Stalin and the Great Patriotic War

Rebuilt for coastal defense after the Civil War, the navy failed to distinguish itself during the Great Patriotic War, presenting a sharp contrast to the heroic actions of the Red Army in the face of Fascist invaders. During the war, the navy served primarily in support roles, moving against Axis commerce and securing transit of Soviet supplies. Soviet shipbuilding facilities constructed tanks, not new ships, reflecting the land orientation of the war on the Soviet home front. Fleet Admiral Gorshkov later attempted to emphasize the importance of the navy’s contributions to the war effort in a bid to increase naval prestige within the Soviet Union. Unfortunately, commerce raiding simply could not compete with the heroic displays of Soviet spirit presented by the defenders of Stalingrad and the residents of Leningrad.

Immediately following the Great Patriotic War, General Secretary Josef Stalin committed to an ambitious naval building program, although his motivation in doing so remains obscure. Stalin’s desire to achieve relative parity with other Allied nations may have driven his blue-water designs, especially considering the success of Western wartime naval operations compared to the Soviet Navy’s lackluster performance. Soviet commitment to the pursuit of an aircraft carrier during the late Stalin era is unclear – pro-carrier Soviet sources involved in the later debate prior to the advent of the Kiev and Kuznetsov allege Stalin’s attempts to secure plans or contracts for various classes of ships, including aircraft carriers.

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8 The Great Patriotic War is the standard Russian name given specifically to the portion of World War II fought in defense of the Soviet homeland.
The Soviet navy did manage to capture the partially completed German carrier Graf Zeppelin during the Great Patriotic War; however, poor handling and overloading led to the loss of the ship in rough seas en route to the North Fleet. The Navy experienced significant growth following the war’s end; however, the sheer distance between the shipyards and the centers of Soviet industry hampered the process of increasing the number of large surface combatants.\textsuperscript{11}

In the post-war period, the Soviet Navy focused on countering the possibility of a Western attack against the Soviet heartland. Soviet military writers frequently argued that vulnerability to nuclear attacks made carriers unsuitable for the Soviet fleet. The Navy’s defensive plans called for land-based bombers to form the first wave of a three-wave defensive plan, followed by submarines and surface ships in successive waves. Naval aviation was largely relegated to the role of defending naval bases and providing air cover in the littoral zone.\textsuperscript{12} As nuclear technology continued to develop, missile ranges for bombers and surface ships increased, reducing the chances of littoral combat, thus rendering the cover from land-based Soviet fighters even less relevant to the conflict envisioned by Soviet defensive planners. Thus, the design and capabilities of Stalin’s theoretical carrier depended on its intended use. Force projection would be out of keeping with Soviet naval strategy, but a carrier-as-deterrent plan would more closely align with stated Soviet goals.

Stalin served as the driving force behind naval development in this period, due in part to the weakness and vulnerability of naval leadership. While the Soviet Navy was

\textsuperscript{11} Hanson W. Baldwin, “The Soviet Navy,” \textit{Foreign Affairs} 33, No. 4 (July 1955): 587, 593.

spared some of the devastating losses suffered by the Red Army during the war, Stalin’s pre-war purges recognized no such differences. Plagued by suspicions of espionage, all but one of the Navy’s nine Fleet Admirals and Admirals First Rank perished in the pre-war purges; the remaining admiral died in jail after the war’s end. As a result, the navy was without a solid leadership core once again. Absent an experienced staff of officers and considering the tense atmosphere created by the purges, independent thought on the part of the Soviet Navy during this period seems unlikely.

**Khrushchev**

Nikita Khrushchev’s 1953 ascent to the position of First Secretary and his subsequent policy of de-Stalinization entailed dramatic changes for the navy’s building program. According to prevailing military wisdom, the rise of nuclear weapons almost completely removed the need for an ocean-going navy. A strike could be launched without drawing too close to the target’s shores; similarly, defense required that the surface navy not stray too far from its home waters. The resultant naval doctrine emphasized a flexible, solely defensive navy, composed of smaller ships suited for operations in the Soviet Union’s littoral zone. Khrushchev dismissed Fleet Admiral Nikolay Kuznetsov from in his position in 1956 as a result of this doctrine, as Kuznetsov’s energetic evangelization of the benefits of large surface ships, and aircraft carriers in particular, went against the First Secretary’s vision for the navy.

Ideological influences shaped Khrushchev’s opposition to carriers in the 1950s and early 1960s. Following American use of aircraft carriers in the Korean War, Khrushchev claimed that aircraft carriers served solely as tools of imperial aggression, 

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and thus had no place in the Soviet Union’s defensive, non-expansionist strategy.\textsuperscript{14} The influential Marshal Georgii Zhukov, serving as Khrushchev’s minister of defense, agreed. Khrushchev’s objections to carriers were so great that a tentative plan from the late 1950s was designated a “floating base for fighter aircraft,” in order to avoid using the term “aircraft carrier” and risk Khrushchev’s ire.\textsuperscript{15}

The profound influence of ideology on Khrushchev clearly shows in his revisions of Soviet just war doctrine. Khrushchev’s approach divided military conflicts into world wars, local wars, and wars of national liberation; all but the last category were unjust, due to the potential for the destruction of socialism. Khrushchev thus attempted to discourage the Americans from initiating conflict on either the superpower or Third World proxy level.\textsuperscript{16} In addition to signaling Soviet intentions, the new doctrine also denied the legitimacy of most uses for a blue-water navy. Limited to providing support for land forces in “wars of national liberation,” the navy under Khrushchev had no need for large surface combatants. Conveniently, denying the navy its large-scale building program made heavy budget cuts to the defense industry possible while minimizing the effect of said cuts upon the land forces, pleasing both the consumers who benefitted from Khrushchev’s redistribution and members of the Red Army-dominated General Staff.

Despite his initial opposition to large surface combatants, Khrushchev often receives credit for undertaking an impressive building campaign in reaction to the disgrace of the Cuban Missile Crisis. Khrushchev’s shift to accepting large surface ships actually began earlier in the 1960s – during the spring of 1962, he praised work on

\textsuperscript{14} Stefansky, 38.
\textsuperscript{16} Stefansky, 54-55.
surface ships during a tour of a Leningrad shipyard.\textsuperscript{17} Soviet deployment of the SS-7 Saddler ICBM in 1961 and Western use of seaborne nuclear delivery systems fed Khrushchëv’s change in policy.\textsuperscript{18} Unlike known land installations, nuclear weapons carried by submarines and surface craft could not be set in the crosshairs of a Soviet launch system ahead of time; thus, the Soviet Navy required sufficient blue-water strength to disable potential threats in distant oceans. Considering the substantial length of the naval building cycle, the appearance of major surface combatants following the Cuban crisis bears testimony to the programs set in motion by Stalin and Kuznetsov more than to Khrushchëv’s change of heart.

\textbf{Brezhnev and the Era of Stagnation}

In 1967, Leonid Brezhnev succeeded Khrushchëv, after the latter’s short tenure as General Secretary. Early in Brezhnev’s time as General Secretary, the Politburo was not dominated by a single personality, as it had been during the times of Stalin and Khrushchëv, but instead functioned through committee rule, allowing all parties to avoid bearing the brunt of any particular debacle. Brezhnev also presided over a period of severe stagnation in the Soviet economy, which was exacerbated by the Red Army’s long involvement in Afghanistan.

Brezhnev’s ascent provided the Soviet naval community with a unique opportunity, as Fleet Admiral Sergey Gorshkov,\textsuperscript{19} an apt politician as well as military leader.

\textsuperscript{17} David F. Winkler, \textit{Cold War at Sea: High-Seas Confrontation between the United States and the Soviet Union} (Annapolis: United States Naval Institute Press, 2000), 28.
\textsuperscript{18} Robert Waring Herrick, \textit{Soviet Naval Theory and Policy: Gorshkov’s Inheritance} (Newport, RI: Naval War College Press, 1988), 508. Saddler is the NATO reporting name for the R-16 intercontinental ballistic missile. I have used NATO reporting names for weapons systems throughout.
\textsuperscript{19} Kuznetsov’s successor, Fleet Admiral Sergey Gorshkov rose to the navy’s highest post in 1956 and served as the navy’s commander-in-chief for nearly thirty years, only retiring in 1985. Gorshkov emphasized the need for control of the sea and control of the air. Gorshkov succeeded in protecting the
leader, exploited close personal ties with Brezhnev in order to advance the Navy’s goals. Brezhnev and his economic guru, Alexey Kosygin, had ties to the Soviet Navy – as a political officer in the Red Army, Brezhnev had participated in a naval amphibious landing during World War II and served in naval administration, while Kosygin’s political career began in Leningrad, a major maritime center.  

Admiral Gorshkov leveraged his relationship with Brezhnev and the absence of strong central leadership to enact his theories of control of sea and air through a significantly more powerful Soviet Navy. Under Brezhnev, the visibility of the Soviet Navy at home and abroad increased, as Soviet ships began making highly publicized port visits, including an exchange with the United States in 1975.

Gorshkov’s fleet continued to gain strength, despite the strain of the ongoing war in Afghanistan, a conflict for which Gorshkov’s ocean-going navy was ill-suited. This period saw the introduction of new major surface combatants, including the laying of hulls for both units of Project 1143.5, the Soviet Union’s indigenous wide-deck aircraft carrier, opening the possibility for sea-based air support in future conflicts.

Admiral Gorshkov’s classic work on Soviet naval strategy, *Sea Power of the State*, explains much of the thinking behind Soviet naval strategy. Translations of the first edition circulated worldwide, with a heavy emphasis on imbuing Soviet client states in the Third World with a positive view of the Soviet Navy as an ally against the imperialist

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notes:


21 Soviet, and now Russian, navy convention designates ships according to project number, as opposed to named classes. Western analysts typically designate a class name based on the first hull of a particular project.
forces detailed in the book. The second edition, published in 1979, promised to clarify points raised by reader correspondence and critical reviews. In addition to praising the Soviet Navy, the work also served as a vehicle for Socialist ideology, praising the celebration of the 60th anniversary of the October Revolution and the adoption of a new constitution, while assuring readers that “the existence of antagonists to the socialist system means that the [Soviet] navy remains dominant.” The emphasis on the aggression of Western imperialist states against the peace-loving socialists of the Soviet Union, couched in Leninist ideology, undoubtedly strengthened Gorshkov’s position as he argued for increasing the size and strength of the Soviet fleet.

A pair of aging General Secretaries followed Brezhnev’s tenure in quick succession. Although American intelligence sources expressed concern that the fleet would suffer from the loss of the special relationship between Brezhnev and Gorbachev, neither Yuri Andropov (November 1982-February 1984) nor Konstantin Chernenko (February 1984-March 1985) remained in office long enough or possessed sufficient strength to have a major impact on the fleet’s future. The political and economic changes that occurred during this period of revolving leadership underscored the Soviet Navy’s vulnerability in the face of internal machinations, but these changes did not cause as great an impact as those occurring under longer-serving Secretaries.24

Gorbachev and Glasnost’

Mikhail Gorbachev succeeded Chernenko as General Secretary in 1985, bringing the energy of the younger generation into a post long occupied by stagnant apparatchiks. Gorbachev inherited an extensive building program from his predecessors, and the construction of large surface ships continued apace in the late 1980s, in part due to the difficulty of halting the process. The now-formidable Soviet Navy found a new commander-in-chief in Fleet Admiral Vladimir Chernavin, formerly Gorshkov’s second in command.

Although Gorbachev did not set out to dismantle first the Soviet defense budget and later the entire Soviet Union, his policies contained the seeds of destruction. With glasnost’, a policy of open speech in the Soviet Union’s repressive society, Gorbachev opened the flood gates for Soviet citizens to freely communicate their displeasure with the state without fear of retribution. This outpouring included vocal protests of the extravagant expense of maintaining the Soviet defense industries, including the construction of new ships, while ordinary Soviet citizens faced shortages of consumer goods and housing. The Soviet defense budget, including the unknown but presumably expensive costs of a blue-water navy, became a subject of open dissent.26

Chapter 3: Building the Kuznetsov

The Path to the Kuznetsov: The Moskva Class

Soviet experimentation with sea-based aircraft began with Project 1123, the Moskva class of helicopter carriers. The two ships of the Moskva class were laid in 1962 (Moskva) and 1965 (Leningrad). The official purpose of the Moskva class and its embarked helicopters was anti-submarine warfare, reflecting the era’s concerns about nuclear launch devices carried by American Polaris submarines.27 The helicopters on these carriers quickly lost their usefulness in this particular role as the range of submarine-carried nuclear weapons soon extended beyond the abilities of Soviet helicopters.28 Despite their limited usefulness, the Moskva class carriers successfully proved the attainability of sea-based aviation for the Soviet Union. Using helicopter carriers in early experiments in sea-based aviation allowed the Soviets to circumvent the technological challenges of converting and launching fixed wing aircraft.

The Kiev Class

From the Moskva class, Soviet shipyards set their sights higher and constructed Project 1143, the Kiev class of aircraft carriers. Unlike the Moskva carriers, the four hulls of the Kiev class could embark both fixed and rotary wing aircraft. The shortness of the deck and the absence of catapults and arresting wires greatly restricted the aircraft capable of flying from the Kiev carriers – only Vertical Take-Off and Landing (VTOL) aircraft could be used. The Soviet approximation of the Harrier jet, the Yak-38 Forger,
proved inferior to Western versions in flight time, range, and ease of take-off, which greatly reduced the effectiveness of the *Kiev* carriers.\(^{29}\) Even with these limitations, the *Kiev* class represented a significant increase in sea-based air power for the Soviet Union. The four ships together could operate a total of 52 Forger fighter-attack aircraft, in addition to 68 helicopters (either the Ka-2 Hormone or the Ka-27 Helix).

The evolution of the *Kiev* class reflected a growing understanding of the needs and possibilities of carrier-based aviation, as the later hulls in the class attempted to correct the deficiencies of their predecessors. The first hulls of the class\(^ {30}\) were minimally armed, carrying two SA-N-3 Goblet twin launchers and two SA-N-4 Gecko twin launchers for surface-to-air missiles and eight SS-N-12 Sandbox tubes for surface-to-surface missiles. In contrast, later ships of the class carried significantly more missiles, culminating with the *Gorshkov*’s\(^ {31}\) 24 SA-N-9 eight cell launchers and twelve SS-N-12 Sandbox tubes. The *Gorshkov* also carried two 100-mm/70-caliber dual-purpose guns in lieu of the four 76.2-mm/59-caliber anti-aircraft guns carried by earlier hulls. All models carried the same eight 30-mm/65-caliber AK-630 close-in guns and had ten 21-inch torpedo tubes.\(^ {32}\) The switch from dedicated anti-aircraft guns may signal appreciation for the effectiveness of the embarked Forger fighter-attack aircraft for air defense; it may also be related to the increased air defense coverage provided by the upgrade to a substantial number of SA-N-9 SAM launchers. The increase in number and quality of the *Gorshkov*’s armament shows the Soviet Navy’s ability to learn and adapt: earlier hulls

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29 Fieldhouse, 34.
30 The *Kiev* and the *Minsk*, laid in 1970 and 1972, respectively
31 *Kiev* class hull 4, laid in 1978
had been a liability, as they offered little more than the Forgers’ air screen, whereas the
_Gorshkov_ was an asset to a group, with or without its aircraft.

In addition to the weapons described above, the _Kiev_ class carriers, like the
_Moskva_ class, carried anti-submarine weapons in the form of the SUW-N-1, a short-range
ballistic missile launcher equipped only for nuclear warheads. This system appeared only
on _Kiev_ and _Moskva_ class ships; later ships carried the SS-N-14 Silex instead, which used
a conventional guided projectile in place of the nuclear warhead.\textsuperscript{33}

Although the fixed wing aircraft aboard the _Kiev_ class carriers represented a
major departure from traditional Soviet thinking, the ships still bore traces of earlier
resistance to carriers. The extensive weapons systems, on par with those aboard other
vessels, repudiated claims that carriers relied on supporting ships to provide cover. The
main deck of a _Kiev_ class carrier consisted of two parts – the forward third of the deck
was devoted to weapons, while the rear two-thirds served as the flight deck for the
embarked air wing.\textsuperscript{34} This arrangement clearly showed the _Kiev_ carriers to be more than
floating landing strips.

The Forger aircraft embarked on _Kiev_ carriers reflected an alteration in the role of
Soviet sea-based naval aviation. Like their predecessors in the _Moskva_ class, carriers of
the _Kiev_ class continued to carry helicopters in an anti-submarine role, justifying their
initial designation as “anti-submarine cruisers.” Unlike the _Moskva_ carriers, the 53 meter
flight deck on the _Kiev_ carriers presented the opportunity for the use of fixed wing
aircraft. Forger class aircraft were designed as fighter-attack craft, requiring the

434.

\textsuperscript{34} Norman Polmar, _The Naval Institute Guide to the Soviet Navy, Fifth Edition_ (Annapolis: Naval Institute
development of new tactics and doctrine for use with sea-based fighters. Unfortunately, as a result of the fixed position of its lift nozzles, Forger was incapable of a rolling take-off. The lift nozzles became dead weight once the craft was airborne, limiting maneuverability. Saddled with inadequate technology and poor design, the Forger was an inferior combatant, therefore substantially limiting the air defense provided by Kiev class carriers. The Forger fighters also lacked sufficient range and capability to work effectively against either well-defended sea- or land-based targets. The Kiev class advanced Soviet naval aviation, but the technology involved remained well below its Western counterparts.

The Kuznetsov Class

In light of the Kiev class’s limitations, including the difficulties the Soviets faced in developing new and better VTOL craft, Soviet shipbuilders in the late 1970s turned to designing an aircraft carrier capable of handling conventional take-off and landing (CTOL) aircraft. Project 1143, which would become the Kuznetsov class of aircraft carriers, was the first attempt at a CTOL-capable carrier. The Nikolayev South Shipyard (Soviet Shipyard No. 444) laid the first hull of the Kuznetsov class in 1982. Originally dubbed the Tbilisi in honor of the capital of the Georgian Soviet Socialist Republic, it was renamed the Leonid Brezhnev in the wake of Georgian nationalist uprisings in the late 1980s, only to be renamed a final time in 1990 as the Admiral Flota Sovetskogo

35 U.S. Department of the Navy, Soviet Naval Developments, 45.
36 Fieldhouse, 34.
38 Neither the Forger’s successor, the Yak-41 Freestyle, nor the third generation aircraft, the Yak-43, ever reached production.
39 The Kuznetsov class is also sometimes referred to as the Kreml’ class of carriers, based on an early Western assessment that the first ship of the class would be named Kreml’ or Kremlin.
Soiuza Nikolay Kuznetsov, in honor of the original Soviet proponent of the aircraft carrier.

Nikolayev Shipyards laid a second hull, originally christened the Riga and later renamed the Varyag, in 1985, but the half-constructed hull was sold to the People’s Republic of China following the break-up of the Soviet Union.

Although more advanced than the Kiev carriers in that they could embark non-VTOL fixed-wing aircraft, the Kuznetsov class of carriers was still limited in the aircraft available. Despite extensive testing and the utter conviction of Western intelligence analysts, Soviet shipyards lacked sufficient technical knowledge to construct a reliable version of the steam-powered catapults, like those used to aid launches on American aircraft carriers. Given the inherent space limitations of a carrier’s deck and the weight and size characteristics necessary for efficient flight, Soviet aircraft designers could not resort to their usual techniques of increasing size and redundancy in order to compensate for less-sophisticated technology. As a result of this shortcoming, the Kuznetsov carriers were restricted to aircraft capable of making short take-offs and landings with the aid of a ski-jump ramp. The amount of fuel consumed during the launch required that the aircraft remain close to the ship, limiting the carrier’s utility as an off-shore base for strikes against land targets.

Technological limitations also resulted in a less-efficient propulsion system for the Kuznetsov carriers, as they were powered not by an onboard reactor, but by 4-shafted steam turbines. The use of conventional power curtailed the potential shore independence of the class, as they depended on regular quantities of fuel to continue functioning.

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40 Fieldhouse, 38
While the Kuznetsov class of carriers created new possibilities for Soviet Naval Aviation, these carriers also maintained sufficient weapons systems to make them significant combatants apart from their embarked air wings. The Kuznetsov (Kuznetsov hull 1) carries twelve SS-N-19 Shipwreck surface-to-surface missile launchers, as well as four SA-N-9 Gauntlet vertical launch systems for surface-to-air missiles. For additional air defense, the Kuznetsov carries eight CADS-N-1 Kortik/Kashtan systems, which combine twin 30-mm Gatling guns with a SA-N-11 Grisson and Hot Flash/Hot Spot fire-control radar/optronic director. Observers believe that the Hot Flash/Hot Spot radar also controls the ship’s six 30-mm/65-caliber AK630 guns.\textsuperscript{41} The missile launchers are concentrated at the ship’s bow and stern, with the SS-N-19 missiles located in the center of the flight deck, and the SA-N-9 and CADS-N-1 systems along the deck’s edges.

Aviation is a secondary priority for the carriers, judging by the flight deck’s design. Carriers of the Kuznetsov class hold all aircraft in hangars below the flight deck. The flight deck has no tie downs for carrying aircraft on deck, limiting the size of the embarked air wing. The onboard hangar can accommodate up to eighteen naval-adapted Flanker-D aircraft, which are moved to the flight deck via a pair of lifts on the ship’s starboard side. Due to the lack of steam-powered catapults, the embarked aircraft rely on a 14° ski jump for assistance with take-off. The ship does utilize an angled flight deck, as favored by Western navies. For landing, the Kuznetsov uses a standard configuration of four arresting wires.

In 2004, Jane’s estimated the Kuznetsov’s standard air wing to consist of eighteen Flanker-D and four Frogfoot fixed-wing aircraft, along with fifteen Ka-27 Helix and two

\textsuperscript{41} Saunders, 603.
Ka-31 RLD Helix helicopters, although Russian sources claim a maximum capacity of 60 aircraft. While the hangar may be able to accommodate the larger air wing, a dearth of carrier-trained pilots makes it unlikely that such a large air wing could be successfully embarked and deployed.

Like its predecessors, the *Kuznetsov* class retained a stated anti-submarine mission, as it expanded the range of anti-submarine aviation beyond the littoral zone. By expanding the operating radius for anti-submarine strikes, the Soviets moved one step closer to realizing their strategy of striking submarines everywhere they operate. Although the advent of sea-based CTOL aircraft did make this strategy more viable, the single operating carrier could not have completely fulfilled this goal, since three operational carriers are generally required in order to keep one carrier active at sea at all times. Moreover, the *Kuznetsov* spends too much time in port to fully engage in this role. The *Kuznetsov*’s embarked helicopters have been observed operating in anti-submarine capacities during exercises, but fixed-wing aircraft spend the majority of their operating time at sea training pilots in carrier take-offs and landings.

**Naval Culture and Aircraft Carriers**

Although launching the *Kuznetsov* was an important development for Soviet naval aviation, both the Soviet Union and the Russian Federation have consistently failed to develop a strong program for the effective use of the aircraft carrier and its embarked air wing. The Navy’s culture with respect to leadership and pilots impeded the growth of a strong carrier tradition.

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42 Sanders, 603.
43 Vego, 355.
One of the great advantages of an aircraft carrier is its ability to operate independently from shore, both in terms of undertaking and directing action, and of maintaining equipment without need for major shore-based repair facilities. The Soviet Navy’s command and control system, however, placed the majority of operational power not with individual commanders at sea, but rather with a centralized shore-based command center, where all movements were determined and then issued to the fleet. This close coordination resulted from Fleet Admiral Gorshkov’s plan for a “battle of the first salvo,” which required that all ships worldwide be prepared to fire in unison, in order to counter an American strike, which would also theoretically entail the employment of all available systems. The centralized system remained in place long after the theory of total war it was predicated upon had disappeared. This system also effectively stripped the unit commander of all initiative, thus creating an officer class ill-suited to command a shore-independent carrier if breaking free of the central command center ever became possible.

The piloting culture surrounding naval aviation in Russia also creates barriers to the effective employment of the Kuznetsov. Prior to the introduction of the Moskva class for helicopters and the Kiev class for fixed-wing aviation, all members of Soviet Naval Aviation were shore-based, charged with providing air cover for ships in the littoral zone and protecting bases on shore. Aircraft deployed in distant-shores operations only when the Soviet Union possessed sufficiently cordial relations with another nation so as to

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provide a forward operation base for their aircraft. As a result, naval aviators and sailors, especially those aboard submarines or blue-water ships, inhabited vastly different realms within the navy.

The structure of Soviet Naval Aviation reinforced these differences, as naval pilots were largely separated from their navy peers, and were instead much more integrated with the Soviet Air Force. Naval aviators trained alongside their Air Force comrades in shore-based and land-focused training schools operated by the Air Force. In its pre-carrier days, Soviet Naval Aviation lacked a reserve of pilot candidates, and thus new pilots were selected from other areas of service, requiring a heavy course of theoretical and practical education. The later establishment of a pilot reserve alleviated some this training burden, but the failure to provide adequate manpower highlighted the relatively low status occupied by naval aviation.

Moreover, in contrast to the ranking structure dominant within the Soviet Navy, naval aviators used the same ranking scheme as the land forces of the Soviet state. Soviet naval aviators functioned under their own chain of command, reporting to each fleet’s head of aviation, who in turn reported to the fleet’s commander. The use of this alternative ranking structure significantly limited opportunities for advancement within the Soviet Navy for pilots, shutting them out of chances to command, in contrast to the American policy of using former pilots as commanders for aircraft carriers. The separation of aviation from the surface fleet cuts both ways, as it limits surface officer

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45 The need for forward operating bases plagued the Soviet Navy in situations like the Six Day War – the Soviets held a clear advantage in tonnage in the area, but could not provide air support without violating sovereign air space.
47 Friedman, 25.
exposure to naval aviation, most likely limiting their understanding of the tactics available and best practices in air defense, as well as preventing aviators from integrating more thoroughly with the fleet.

Soviet and Russian naval culture also appears to have certain connotations associated with role of pilot, particularly for pilots of carrier-based aircraft. Literature from the Soviet Navy indicates a concern for the mental stability of naval pilots, making reference to their psychological condition, and the mental barriers they must overcome.48 Similar concerns continue to appear under the Russian Federation, and the psychological well-being of pilots appears to remain a major issue. Nor do pilots hold particularly high status within the navy, perhaps as a result of their separation from surface and submarine crew members in rank and role. Fleet Admiral Gorshkov’s dismissal of naval pilots as mere “chauffeurs” is probably the most famous example of this lack of respect.49

The Communist Party of the Soviet Union, in its ever-present, ever-watchful state, played a large role in the lives of Navy pilots, as it did throughout the military apparatus. The squadron’s party office played an important role in the psychological preparation of young pilots, working to instill an espirt de corps in the squadron by uniting them as “comrades in arms and communists, from whom the command expects high results.”50

What’s in a Name?

Historically, Soviet authorities refused to acknowledge any of their aircraft-carrying ships as “aircraft carriers” after the Western tradition. Instead, Kiev class carriers were originally designated “heavy anti-submarine cruisers,” although they were later re-

49 Freidman, 25.
50 Sirazitdchnov, 51.
classified to acknowledge the presence of embarked aircraft. Similarly, carriers of the
*Kuznetsov* class are considered to be TAKRs – heavy aircraft-carrying cruisers, distinct
from aircraft carriers as a class. This avoidance of the term “aircraft carrier” (*aviånosets*)
is undoubtedly deliberate, although the reason behind the avoidance is less clear. In
November 1989, Fleet Admiral Chernavin gave an interview with *Pravda*, in which he
referred to the soon-to-be-launched *Kuznetsov* as an aircraft carrier, not an aircraft-
carrying cruiser.\(^5\) This error of terminology was so egregious that *Pravda* issued a
formal retraction, which clarified that the new ship was, in fact, not an aircraft carrier, but
simply a ship that happened to carry fixed-wing aircraft.

The class designation issue may be an attempt to solve a legal problem. As Black
Sea nations, both the Soviet Union and the Russian Federation are party to the Montreux
Convention, which governs transit through the Turkish Straits. Legal interpretations of
the Montreux Convention vary on the subject of aircraft carriers owned by Black Sea
nations, due to the Convention’s lack of internal coherence.\(^2\) Non-Black Sea nations
must abide by a limit on tonnage for war ships transiting the Straits, and aircraft carriers
are explicitly banned from the Straits. Black Sea nations are exempted from the tonnage
limits, but the Convention does not clarify whether aircraft carriers are included under
this exemption.

Re-opening the Convention in order to clarify this point would be a risky
maneuver for the Black Sea nations – should the Convention be re-written in
conformation with the Law of the Sea, they would lose the protection afforded by the

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\(^5\) David V. Miller and Jonathon T. Hine, Jr., “Soviet Carriers in the Turkish Straits,” (Newport, RI: U.S.
Naval War College, 1990), 4.
\(^2\) Miller and Hine, 2.
current tonnage limits. Alternatively, Turkey could also choose to tighten the restrictions, costing the Black Seas nations (namely Russia) their ability to build major surface combatants in the Black Sea region for use in other areas.\textsuperscript{53} Thus, the Soviet decision, still upheld by the Russian Federation, to refer to the \textit{Kiev} and \textit{Kuznetsov} classes as “heavy aircraft-carrying cruisers” and not “aircraft carriers” creates a convenient loophole. When transiting carrier-like vessels through the Turkish Straits, the Soviets gave notice to Turkey as required for large warships, and neither party has forced the issue to date.

During \textit{glaasnost}-fueled debates over the relative utility of the Soviet Navy, the designation of the \textit{Kuznetsov} became a politically charged issue. Civilian experts arguing against continued naval building specifically referred to the \textit{Kuznetsov} as an “aircraft carrier,” invoking the specter of Western imperialism and interference, characteristics long attributed to the use of large carriers by Soviet sources. This terminology attempted to morally undermine the naval establishment by decrying the ships and their proponents as un-Soviet. In contrast, members of the Soviet Navy defending the construction and use of the ships held to the official designation of “heavy aircraft-carrying cruiser.” They claimed Soviet carriers were defensive in nature, as distinct from the aggressive orientation of Western carriers.\textsuperscript{54}

While it would seem that an aircraft-carrying ship of a certain size must be classified as a carrier, had the Soviets been able to launch the \textit{Ul’ianovsk}, or should the Russians pursue a larger carrier in the future, it is likely that they will continue to use the “heavy aircraft-carrying cruiser” title. Avoiding the term “aircraft carrier” would allow

\textsuperscript{53} Miller and Hine, 4.
\textsuperscript{54} Atkinson, 3.
the Russian Federation and other Black Sea nations to avoid re-opening the Montreux Convention, lest freedom of the seas supersede the limited protection the Convention affords. Also, Russian forces have precedent for choosing alternatives to Western designations, namely the purposeful misclassification of the Steregushchiy class of vessels as corvettes, despite the relatively high displacement and armament of the class.
Chapter 4: The *Kuznetsov* in the Post-Soviet Period

Dissolution of the Soviet Union

The bulk of the former Soviet Navy fell into the hands of the Russian Federation, although other littoral Soviet successor states, primarily Ukraine, laid claim to their share of the navy. At least one non-littoral successor state (Belarus) attempted to claim partial ownership of naval materiel, but the claim was unsuccessful. Maintaining the remainder of the fleet proved difficult for the Russian Federation in the tumultuous 1990s – loss of the Autonomous Soviet Socialist Republics limited the shipyards and ports available to the Russian Navy, while military leadership struggled to keep ships fueled and stocked.

The newly-established Russian Navy felt the impact of this state of affairs most directly with regard to basing, construction, and training sites located in now-independent Ukraine. Aircraft carriers and carrier pilots suffered a significant blow with the loss of the Crimea, as essential repair and training facilities were located on the Ukrainian side of the border, including the facility used for simulating underway conditions for practicing carrier take-offs and landings. The absence of adequate port facilities meant ships continued functioning on their own power even while in port, as opposed to switching over to shore power. As a result, the lifespan of much of the fleet of the 1990s was dramatically shortened.55

The loss of Ukraine and the other Autonomous Soviet Socialist Republics posed other problems for the Russian fleet, as well. Although Great Russians comprised the

bulk of fleet leadership and the officer corps, a number of the Navy’s most skilled sailors hailed from Ukraine and other non-Russian Soviet states.\textsuperscript{56} The Russian Navy found itself bereft of valuable personnel as successor states began to establish their own navies and claimed their sailors. Harsh conditions faced by Russian sailors exacerbated this maritime brain drain – at least one Russian ship assigned to the Pacific Fleet ran up the Ukrainian flag and professed allegiance to Ukraine, thus guaranteeing themselves duty in the significantly more desirable Black Sea.\textsuperscript{57}

The combined effect of these losses left the Russian Navy in an exceedingly difficult position during the early 1990s. They had lost portions of their surface fleet, yet still lacked adequate manpower and facilities to run and maintain their remaining units, while financial crisis severely limited the solutions available. As a result, naval leadership began retiring vessels in an effort to maximize available resources by concentrating on the upkeep of a smaller number of ships. Some of the ships sacrificed to these cuts were ready for retirement and scrap; however, this policy was a significant blow to the Navy, as many of the retired ships were not past their prime, but simply could not be maintained under current conditions.

Unable to finance continued construction, the Navy cancelled contracts with shipyards, which led to the scrapping of partially constructed ships. Some of these, including the \textit{Ul’ianovsk}, the Soviet Union’s final attempt at a Western-style aircraft carrier, were scrapped outright. Others, such as the \textit{Varyag (Kuznetsov hull 2)}, were sold to other states for completion. As these partially-completed carriers were docked at the

\textsuperscript{57} Chief of Naval Operations, \textit{Understanding Soviet Naval Developments}, 6\textsuperscript{th} Edition (Washington, DC, NAVSO P-3560, 1991), 86.
Nikolayev South Shipyards, the Russian Navy had little say in their fates once it became clear that the Russian Federation could not pay the balance for continuing construction. Nikolayev’s status as a commercial venture beyond Russian borders limited opportunities to apply pressure, even if the Russians had desired to save the carriers. Instead, these ships became sunk costs for the Russian Navy. The effects of the suspension of the building program and the scrapping of partially-completed hulls did not make themselves felt until much later, when no replacements were available for ships aging more quickly than anticipated.

The fleet’s remaining ships suffered from continual shortages, particularly of fuel. Fuel shortages kept the fleet in port and aircraft grounded – in the early 1990s, the average Russian fighter pilot flew just 25 hours per year.\(^{58}\) Lack of funds also caused the depletion of stocks of smaller goods – the citizens of Podmoskve celebrated the tenth anniversary of the *Kuznetsov*’s entry into the fleet with gifts of typewriters and electric clippers for the crew.\(^{59}\)

The Russian Federation’s internal political situation did little to aid the navy’s transition. As the state struggled to transition away from socialism, the fleet suffered the same chaos as the rest of the country. In lieu of an established, consistent defense strategy, the navy’s purpose altered with every new military doctrine or weapons-construction program.\(^{60}\) Between financial ruin and political chaos, the *Kuznetsov*’s low level of activity in the 1990s is hardly surprising.

Concurrently with and following Gorbachev’s tenure as General Secretary, Boris Yeltsin served as President, first of the Russian Soviet Federative Socialist Republic, and later of the Russian Federation. Granted significant powers by the adoption of 1993’s “super presidential” constitution, Yeltsin became the driving force behind Russian defense policy, and thanks to Russia’s outsize influence in the region, behind the policy of much of the former Soviet Union. Yeltsin’s government severely neglected shipbuilding and naval development, allowing a plan to save the nation’s shipbuilding industry – a joint product of the Navy and the State Committee on Military Industry – to sit, unread and unaddressed, for more than four years. The shipbuilding industry suffered definite decay as a result of this and other delays, and now faces a heavy toll for rebuilding.

The wars in Bosnia and Kosovo composed the bulk of Russian international military action in the 1990s. Although these conflicts presented an opportunity for independent action on the part of the Russian Army (notably the general-initiated “surprise” arrival of Russian troops in Pristina during NATO actions), both the conflicts and the nature of the actions undertaken by the Russian military leadership excluded naval participation. Russian ground troops worked as peacekeepers, protecting Serbs and their property from NATO forces, a role not easily fulfilled by submarines or destroyers.

Former President and current Prime Minister of the Russian Federation Vladimir Putin has a mixed record on naval issues. While President, Putin took an active interest in

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the Commander-in-Chief of the Navy’s career, even attending his dissertation defense in July 2000. Fleet Admiral Vladimir Kuroevdov initially advanced a realistic coastal-defense approach for the navy, but later abandoned it in favor of championing a blue-water strategy. Kuroedov’s ambitious strategy seemed to align with Putin’s rhetoric for Russia’s military advancement; however, Putin repeatedly failed to authorize funding to realize these goals.

Dmitiriy Medvedev, the current President of the Russian Federation, has focused most of his attention on increasing Russian technological prowess, particularly in the realm of nanotechnology. Medvedev has put significant effort into brokering a deal with Ukraine regarding continued use of Sevastopol’ and other Black Sea locations, and has also overseen the acquisition of new helicopter carriers from France.

All three post-Soviet leaders have good reason to distance themselves from the navy, given such widely-publicized disasters as the starvation of four sailors serving at a Pacific Fleet base in 1993, and the sinking of the Kursk with all hands in July 2000. Whether coastal or blue-water, the navy lacks the ability to provide much help in internal conflicts, which have demanded the bulk of Russian attention. The conflict in the North Caucasus, which began in 1990 and continues through the present day, is a significant drain on Russian military resources, while threats of similar conflicts in both Russian Central Asia and neighboring states require that land and air forces remain a primary

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62 Kuroedov’s dissertation was originally for a Candidate of Science degree (roughly the equivalent of an American PhD. However, following Putin’s attendance and involvement, the committee re-convened and elected to award Kuroedov the title of Doctor of Science, the highest Russian degree.


64 Tsypkin, 179.

65 The Second Chechen War officially ended in April 2009, but military operations in the region are ongoing.
focus. However, after the trials of the early post-Soviet period, the Russian Navy appears to be making a comeback, launching several new surface combatants in the late 2000s, notably the Steregushchiy class of corvettes and the Gorshkov class of frigates. Although the Russian Navy has yet to lay the keel for another aircraft carrier, the Navy has moved to purchase a number of Mistral class helicopter carriers from France, signing a contract in January 2011 for delivery of the first unit in 2013.

The Kuznetsov in Service

Formally commissioned on 20 January 1991, the Kuznetsov spent less than a year in the service of the Soviet Navy before the dissolution of the Soviet Union led to its transfer to the Russian Navy. Plagued by inferior technology and a shrinking military budget, the Kuznetsov has spent more time in a repair berth than it has at sea. On the rare occasion that it leaves port, the Kuznetsov’s primary mission has been to show the flag and demonstrate continued Russian military might and presence.

In 1996, the Kuznetsov led a carrier group in a Mediterranean cruise commemorating the 300th anniversary of the founding of the Russian Navy under Peter the Great. Aside from re-affirming Russian interest in the Mediterranean and providing at-sea experience for the crews, the cruise was of little consequence. The Kuznetsov subsequently remained either in the Barents Sea or in a repair bay for much of the next eight years, only returning to full service in 2004. Despite technical problems, the ship participated in the “Bezopasnost’-2004” exercise and then underwent an overhaul, returning to the fleet in summer 2004. The carrier was able to participate in North Fleet training exercises in 2005, but returned to the repair bay in 2006, following ongoing technical problems.
After this last set of repairs, the Kuznetsov returned to active duty, deploying to the Mediterranean Sea in late 2007 and participating in naval exercises in the North Atlantic in 2008, marking the first large-scale Russian naval exercise in the Atlantic in fifteen years. The Kuznetsov has remained active in recent years, making port calls in the Mediterranean and touring the Atlantic in 2009; however, technical and personnel issues continued, including a fatal on-board fire and an oil spill during refueling off the Irish coast. Since its return from the 2009 deployment, the Kuznetsov has remained close to its Severomorsk home port. It did not participate in the Pacific Ocean-based Vostok-2010 joint exercises, despite significant interest in the possible use of carrier aviation in the Pacific.

**Maintenance**

Participation in out-of-area deployments and large-scale exercises showcases the Kuznetsov’s continuing utility for the Russian Navy as both a flagship and a significant weapon. At the same time, the repeated overhauls and accidents at sea reveal problems the Russian Navy must rectify if the Kuznetsov is to remain in active service. Maintaining the Kuznetsov has been a challenge throughout the vessel’s service life – for example, four years passed between the ship’s commissioning in 1991 and its achievement of full operational status in 1995.

Despite frequent repairs, the Russian Navy continues to struggle to maintain the Kuznetsov’s operational status. The ship has made repeated trips into the repair berth, but only in 2004 did it receive a complete overhaul and modernization effort. All prior repairs were piecemeal work, aimed at rebuilding the ship, one element at a time. During the summer 2004 overhaul, the Kuznetsov received its third replacement boiler,
demonstrating an unusually high rate of turnover for the part: the average boiler can be expected to work for close to 35 years, or 20,000 to 25,000 hours of use.\textsuperscript{66} Considering the relatively small amount of time the \textit{Kuznetsov} has spent underway, the need for replacement boilers appears anomalous. However, due to poor port facilities, the \textit{Kuznetsov} need not be underway in order to put significant stress on its components: when the ship joined the North Fleet in 1991, a special dock was constructed to accommodate its large size. This dock, however, lacks the necessary connections for the \textit{Kuznetsov} to switch over to shore power while in port.\textsuperscript{67} As a result, the ship runs on its own power at all times, causing components to wear out significantly faster than anticipated and necessitating frequent repairs and replacements.

While the 2004 overhaul received attention as a major undertaking for the ship, it was still conducted in a rushed fashion, with the installation of such critical systems as the CADS-N-1 beginning only as the deadline for the ship’s re-launch drew nigh.

These repeated repairs have proven taxing not only for the Navy, but also for the shipyards charged with handling them. As the largest ship in the Russian fleet, the \textit{Kuznetsov} requires unusual facilities and a large number of workers. Ship Repair Facility No. 35, “Severomorput’,” a federal unitary enterprise, undertook the ship’s 2004 round of repairs, but the sheer size of the job and the expertise required forced Severomorput’ to use contractors and sub-contractors.

The difficulty of finding workers with adequate skills is an understandable and expected by-product of the Navy’s decision to halt production of carriers in the early

\textsuperscript{67} Rogov et al., 9.
1990s, and will likely only be overcome with time and commitment to developing a skilled workforce trained for such ships. In the meantime, the Russian Navy will have to continue depending on Russian and foreign contractors to supplement their own maintenance attempts. This lack of skilled workers may also be a contributing factor in the spotty nature of the Kuznetsov’s repairs – the Navy considered the 2004 repairs the ship’s first true overhaul, whereas all previous work had been carried out only as time and resources allowed.68

Manning the Kuznetsov

When the Kuznetsov is in port or under repair, its crew continues to train. Despite Admiral Gorshkov’s 1961 exhortation to “go to sea,” the Russian Navy conducts the majority of its training in-port, with expectation that sailors will be able to replicate much-rehearsed actions under a variety of conditions. Standard Soviet and Russian procedure demands little independence of thought or responsibility from enlisted men, most of whom are serving their mandatory term of conscription.

The combination of this training philosophy and the Kuznetsov’s technical woes, however, means that much of the ship’s crew lacks experience on the open sea, despite the ship’s blue-water goals. At the time of the 2004 repairs, the majority of ship’s officers at the captain-lieutenant rank had never sailed on the “big sea.”69 Similarly, the Kuznetsov’s trip out of port in 2006 served as a training cruise for some 253 conscript sailors and 31 recently-graduated lieutenants.70 Currently, every cruise serves as an

68 Vasil’ev, “Atlantika-2004”.
69 Vasil’ev, “Atlantika-2004”.
introduction for as many as 500 new crew members, of whom approximately ten percent will return as contract sailors once their term of conscription is completed.\textsuperscript{71}

The length of the term of conscription decreased in the late 2000s, as the Kremlin lowered it first from two years to eighteen months, and then again from eighteen months to one year, the current term. Shorter terms of conscription, coupled with low rates of re-enlistment mean the Navy is constantly training new recruits to do the same jobs. Many commands deal with this by shunting conscripts into menial duties, which in turn greatly increases the burden on officers and NCOs.

Hands-on experience is hard to come by for the Kuznetsov’s crew, especially for the pilots. As the Kuznetsov remains the Russian Navy’s only CTOL-capable aircraft carrier, pilots must rely on simulators for practice when the ship’s flight deck is not available. Using simulators to mimic the pitching of a ship’s deck would usually be an acceptable compromise; however, the sole carrier-aviation training facility built by the Soviet Union is located on the Crimean Peninsula, which became Ukrainian territory at the fall of the Soviet Union. As a result, the Russian Navy must lease the base from Ukraine in order to access pilot training facilities. Although the Kremlin signed a deal on 21 April 2010, extending the Russian lease on the naval base at Sevastopol’ through 2042, the agreements are not without their pitfalls. In 2006, the Russian Federation intended to pay Ukraine $500,000 USD so that Russian pilots could use the Crimean carrier-aviation facility for a month and a half.\textsuperscript{72} The pilots were not permitted to use the facility until September, and as a result, by the time they returned to the North Fleet and

the Kuznetsov, the onset of polar night prevented safe use of the flight deck; instead, they flew from the aerodrome onshore. The renewal agreement is a source of contention within Ukraine, prompting protests more than a year after its signing, at which participants denounced the deal as a “death blow for Ukrainian sovereignty.” Sources mention the possibility of constructing a new facility in the vicinity of Taganrog or Eysk in order to avoid these issues, but no apparent movement has been made toward this goal.

73 Vasil’ev, “Sedoy Barents I dva “Admirala””.
75 Aleksandrov, “Armiiia: Razbeg bez Vzleta”
Chapter 5: Concluding Assessments

In spite of the Kuznetsov’s continual repairs, the Russian Navy displays a clear devotion to the ship. Articles concerning the vessel’s major overhaul in 2004 speak of the repairs as a key factor in helping the Navy to “rise up off its knees.” This commitment resonates beyond the command level, as the sailors interviewed pledge that, “with screams and cries, through sweat and blood, the task [of overhaul] will be completed,” so that the Kuznetsov would be ready to sail for a naval parade later in the summer. In recent years, Fleet Admiral Vladimir Vysotskiy has promoted the continued use of the Kuznetsov and has suggested the possible inclusion of new aircraft carriers, particularly in the Pacific Fleet. The Kuznetsov remains a topic of interest for news outlets, featured in a January 2011 Krasnaia Zvezda article commemorating the twentieth anniversary of the raising of the Russian Navy’s ensign in 1991, while plans to finally deploy the naval variant of the Su-33 Flanker-D aircraft have kept the Kuznetsov in the news for much of April 2011.

The selling of the Varyag and the Gorshkov, and the scrapping of the Ulian’ovsk and the first three hulls of the Kiev class did not silence the drive for expanded naval aviation in the Russian Federation. If anything these losses have intensified the debate. Some view Vyisotskiy’s plan to increase the number of carriers with suspicion, given the Kuznetsov’s mixed record. Repairs to the Kuznetsov have proven costly – although the

76 Vasil’ev, “Atlantika-2004”.
77 Vasil’ev, “Atlantika-2004”.
78 Borob’eva, “Flagman Morskoy Derzhavi”.

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Navy never released the official figures, some estimates put the cost of the 2004 overhaul as equal to the Navy’s annual operating budget. Moreover, constructing a carrier would require massive expenditure not only on the ship itself, but also on creating the infrastructure required to support such construction. The Russian Federation lacks the necessary shipyard facilities (docks, cranes) needed for large-scale shipbuilding. In light of these additional expenditures, some Russian experts have instead argued for making greater investments in existing, working programs, primarily submarines. Critics also claim that the Kuznetsov is not a true carrier, as its diesel engine more closely resembles that of a World War II-era carrier than today’s modern nuclear-powered ships. According to this charge, Russia has no practical experience in carrier construction.

Enthusiasm for new carrier construction appears to be high within fleet leadership, although it is often tempered by acknowledgement of the length of the building cycle. On one hand, predictions by pro-carrier commentators seem little altered over the course of the last twenty years. In the midst of the chaos of the 1990s, Russian naval proponents still predicted as many as six (Main Naval Staff and Shipbuilding Department of the State Committee on Defense) or even fourteen (Rear-Admiral Valerii Aleksin and Captain 1st Rank (Res.) Eduard Shevlev) carriers in the fleet’s future. Although Chairman of the Military-Industrial Commission V. Putilin insisted in 2006 that there would be no repeat of these overzealous estimations, Fleet Admiral Vysotskiy remains in favor of building new and better carriers, including the possibility of ships

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79 Vasil’ev, “Atlantika-2004”.
81 Artem’ev, “Admiral avianosets”.
with 100,000 ton displacements, fit to rival American carriers. Vysotskiy’s predecessor, Fleet Admiral Vladimir Masorin, promised the future construction of a nuclear-powered carrier capable of handling 30 aircraft, proving that the carrier plans are more than just Vysotskiy’s pet project. Official Russian doctrine also endorses the pro-carrier position – the “Russian Federation’s Political Basis in the Area of Naval Activities Through 2010,” signed by Putin in March 2000, calls for the construction of multi-purpose submarines and surface ships, including aircraft carriers.

These plans may seem to contain more rhetoric than reality, and many cautions exist against taking naval leadership at their word. However, there are signs that these plans may be more than talk. In August 2010, the Nevskoe Project Construction Bureau, which aided in the Kuznetsov’s construction, and the Severnoe Project Construction Bureau, another predominant naval planner, were drafting plans for a new carrier. Formal funding has not yet been offered, but the existence of a blueprint is an important starting point. Vysotskiy handles the issues of cost by suggesting that the Russian Federation undertake the construction of a new carrier as a special government project, rather than dipping into the Navy’s operating budget. Similarly, Vysotskiy promised that the new carrier pilot training facility in the Russian Federation would be completed in 2012. The facility’s runways measure 2,500 meters in length – significantly longer than neces

86 Taresenko, “Avianosets k kontsu goda”.
87 Taresenko, “Avianosets k kontsu goda”.
than the Kuznetsov’s flight deck, indicating that the designers had a different ship in mind.

Some critics declare carriers are unsuitable for the Russian Navy, arguing that the absence of a tradition of forward-basing renders the carrier, an instrument of power projection, worthless. Fleet Admiral Vysotskiy seems determined to create a culture supportive of his carrier ambitions, as he explains his interest in increasing foreign port calls as a first step toward basing Russian ships abroad. The Russian Navy has increased activity at the Syrian port of Tartu, and has expressed interest in re-opening their base in Vietnam, both indicative of the coming of a greater Russian presence. In the words of Konstantin Sivkov, the vice-president of the Academy of Geopolitical Problems, “…if we [the Russian Federation] wish to remain active in foreign politics, we need, at minimum, a carrier in each the Pacific and North Fleets…”

Russian attempts in the last year to acquire Mistral class helicopter carriers from France indicate a continued interest in sea-based naval aviation, albeit with rotary-wing aircraft. The Mistral purchase opens other options for Russian naval planners, as well – if the Russian Navy is willing to purchase a number of helicopter carriers abroad, why not seek to strike a deal with a country with better-prepared shipyards for a large-deck aircraft carrier? Purchasing vessels abroad circumvents a number of problems associated with construction, and, in the case of the Mistral carriers, significantly shortens the production timeline. Should the Russian Federation choose to pursue this route, it is

88 Artem’ev, “Admiral-avianosets”.
89 Taresenko, “Avianosets k kontsu goda”.
90 Kobialov, “Na Flote Vozniknet Disbalans”.
likely to encounter resistance from neighboring states, similar to the friction it is currently experiencing with Sweden over plans to deploy *Mistral* carriers to the North Fleet.

The introduction of the Su-33 Flanker-D naval variant also indicates the Russian Navy’s continuing commitment to sea-based naval aviation. Along the same lines, although not yet explicitly earmarked for a naval variant, the new fifth-generation PAK-FA stealth fighter is generally compared to the American F-35 Lightning II Joint Strike Fighter in the Russian media. This comparison is key for the future of naval aviation because Russian sources frequently describe the F-35 as a “*palubniy istrebitel’*,“ or carrier-based fighter. The use of this description may indicate Russian interest in adapting the PAK-FA for future carrier use. In the near term, adaption and use of these fighters will require that the *Kuznetsov* remain in service, at least until a new carrier can be acquired or constructed.

The nature of the *Kuznetsov*’s future repairs will be telling in regard to its intended term of service. For example, the *Kuznetsov*’s 2004 upgrades included the addition of the CADS-N-1 Kortik/Kashtan system; the installation of the superior Poliment/Redut system in its place would likely be a sign that the Russian Navy intends to keep the ship in service for some time. The government’s actions toward the shipyards and contractors making these repairs will also be critical. As of the June 2010 revisions to the list of the Russian Federation’s list of strategic enterprises, none of the contractors

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92 Strategic enterprises in the Russian Federation are enterprises which are considered to have significant impact on national security. In the event of financial crisis or bankruptcy, the state will protect and fund these companies.
named in the Kuznetsov’s 2004 overhaul were considered “strategic enterprises,” nor did any of these companies appear on the original list released in August 2004.93

Absent such concrete evidence, experts remain divided with regard to Russia’s plans for the sole remaining carrier. Some anticipate that the Kuznetsov will be used for force projection in the Atlantic in the near term, foreshadowed by participation in open-sea exercises and strong Russian rhetoric, while others feel that age and mistreatment have taken so hard a toll on the ship that the Kuznetsov’s “next port of call will be eBay.”94

Importantly for a service often dominated by the army and the air force, an influx of new carriers could potentially make the fleet relevant to the Russian Federation’s concerns again. While there was fleet involvement in Russia’s short summer war against Georgia in 2008, the navy has had little to offer for many of the nation’s ongoing military concerns, notably the wars in Chechnya and unrest in Central Asia. A carrier would not be particularly useful in either of these situations; however, the addition of carriers to the Pacific Fleet could potentially serve as a deterrent to rising China, especially as the PLAN prepares to launch their retrofitted Soviet carrier. Similarly, adding a carrier to the Black Sea Fleet could potentially grant the Russian Federation some of the leverage it seeks over its neighbors.

Although a 2006 article questioning the need for a Russian aircraft carrier included the People’s Republic of China on its list of major states without such ships, the

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94 David Cummings, e-mail message to author, October 25, 2010; James Andrews, e-mail message to author, October 29, 2010.
balance of naval power in the region may now be shifting as China prepares to launch its own aircraft carrier. Despite arguments that the Chinese carrier is more closely linked to issues of deterrence and national grandeur, it is unlikely that the Russian Federation will accept such a challenge lightly. 95 This is especially true because Russian doctrine considers rising China to be both an economic and military threat. 96 Between this new threat and ongoing territorial conflicts with Japan, a carrier would be a welcome addition to the Pacific Fleet. China’s challenge to the Russian Federation could ultimately shift some of the balance of naval forces within Russia, as well – for reasons of geography, the Pacific Fleet has typically been neglected in favor of the North and Black Sea fleets, both of which are located far closer to the nation’s European population center.

For all its problems, the Russian Navy remains an integral element of the Russian Federation’s military might. Uniquely suited to handle concerns about use of the continental shelf in the north and about NATO’s influence in the Black Sea region, the Navy cannot be replaced by ground troops. As the Russian Federation struggles to maintain its position as regional hegemon and to eventually reclaim its superpower status, establishing a position of power on the world ocean will only increase in importance. Current Russian participation in international anti-piracy operations is likely the precursor to increased international presence for the Russian Navy’s surface fleet. Submarines, long the bastion of Russian naval strength, are exceptionally useful in a number of roles, many of which remain important to the Russian Navy; however, they lack the impact of an aircraft carrier when making port visits and showing the flag.

Without a consistent doctrinal position on the role of sea-based aviation, the vigor with which the carrier program is pursued will continue to rest heavily with the Fleet Admiral. The April 2011 firing of Vice-Admiral Nikolay Borisov, who was handling the deal for French-made *Mistral* class helicopter carriers could signal a change of heart within the Kremlin; however, sources claim the firing was motivated by internal pressures, and both France and the Russian Federation have re-affirmed their commitment to the deal. Current Fleet Admiral Vladimir Vysotskiy’s history with the North Fleet and his consistent championing of the carrier aviation bodes well for naval aviation during his tenure. The future of carrier aviation remains unsure beyond Vysotskiy’s term, but the level of investment undertaken and the appearance of new concerns make it likely that Russia will continue to seek a means of sea-based aviation.
Bibliography


