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## **An Examination of the Russo-Ukrainian War in 2022**

**Major Christopher Hanson**

**JCSP 48**

### **Exercise Solo Flight**

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**An Examination of the Russo-Ukrainian War in 2022**

**Major Christopher Hanson**

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*A monstrous compound of the petty refinements of Byzantium, and the ferocity of the desert horde, a struggle between the etiquette of the Lower Empire, and the savage virtues of Asia, have produced the mighty state which Europe now beholds, and the influence of which she will probably feel hereafter, without being able to understand its operation.*

—Marquis de Custine, observations of the Russian Empire, 1843

## Introduction

Following the Revolution of Dignity, Russia began its invasion of Ukraine on 27 Feb 2014. A joint force of Russian naval and land units, supported by cyber and electronic warfare (EW) effects, finished annexing the Crimean Peninsula with the full withdrawal of Ukrainian forces at the end of March.<sup>1</sup> The conflict then quickly expanded into the Donbas region. In contrast with Crimea, this was a fight between the Ukrainian Military and Russian backed separatists.<sup>2</sup> The Donbas region had the appearance of a civil war, with Russian Armed Forces (RuAF) providing equipment and training to the separatist fighters.<sup>3</sup> This combination of regular RuAF, insurgent separatist fighters, and disinformation became known in the West as “Hybrid Warfare”. This Western concept tried to explain how Russia uses all levers of government power to fight below the threshold of armed conflict. The way this invasion was organized and conducted offered Russia deniability. It offered Russia the freedom in the information domain to claim they are helping ethnic Russians in the Donbas to separate from their Ukrainian Government in the search of freedom and independence. In his address to the UN General Assembly on 28 September 2015, Russian President Vladimir Putin decried the Colour Revolutions in the Middle East and Ukraine as Western plots, while simultaneously making Russia’s case for backing the separatists in Ukraine as a requirement to ensure they had the

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<sup>1</sup> J.L. Black, Michael Johns, and Alanda Theriault, “Brothers disunited: Russia’s use of military power in Ukraine”, in *Return of the Cold War: Ukraine, the West and Russia* (New York, NY: Routledge/Taylor & Francis Group, 2016), 91.

<sup>2</sup> Ibid., 94-95.

<sup>3</sup> Ibid., 95.

freedom to pursue their own political agenda.<sup>4</sup> This low-level conflict in the Donbas region festered in the intervening years leading up to the current invasion. The conflict was successful from a Russian point of view by delaying or potentially denying a newly Western leaning Ukrainian Government from moving forward with plans to join the EU and NATO. With tensions rising between Ukraine and Russia, the Ukrainian Government turned to NATO for training and equipment, which it has provided throughout the conflict.

The reason this paper is opening with a quick synopsis of the beginning of the Russo-Ukrainian war is to set a baseline of Russian activities. The Russian invasion and destabilization of Ukraine in 2014 was a successful operation. Russia was able to mask its intentions to achieve a high degree of surprise from the West and the Ukrainian government. It planned and executed a joint military operation supported by cyber attacks, EW effects, partisans (separatists from a Western point of view), and an effective information campaign designed to confuse and minimize the risk of direct Western military involvement. These activities showed a C2 competence in the RuAF. This was a resurgent Russia, a country with vast natural resources and by all accounts, a modernized military power that could successfully exert its influence regionally and potentially globally. This expectation of a competent and modern RuAF was proven incorrect with its performance in the recent invasion of Ukraine beginning in February 2022. The RuAF's performance in the 2022 Russo-Ukrainian War has been poor for three reasons: its failure to execute adequate or appropriate Command and Control (C2), a lack of logistics preparation and execution, and deficient preparedness. This paper will begin by outlining the Western expectations of the RuAF's C2, logistics and preparedness before the invasion commenced in February 2022. The remainder will explore the question of why the

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<sup>4</sup> Vladimir Putin (speech, 70<sup>th</sup> Session of UN General Assembly, New York, United States, 28 Sep 2015.) "Putin Addresses 70th Session of UN General Assembly - Text." BBC Monitoring Former Soviet Union. 2015.

RuAF's C2, logistics, and preparedness have contributed to its poor performance so far in the conflict.

### **Western Perspective of Russian Capability Leading up to the 2022 Invasion**

The first step in understanding the Western Perspective of Russia's military capability will be to define C2. *Canadian Forces Joint Publication 01 - Canadian Doctrine* definitions will be used as they are general in scope and unbiased so can be applicable to any military including Russia's. At the operational level, i.e the Ukrainian Theatre of Operations for the RuAF, the following definitions will be used:

Operational command is the level of command that employs forces to attain strategic objectives in a theatre or area of operations through the design, organization, and conduct of campaigns and major operations. At the operational level, sea, land, air, and space activities must be conceived and conducted as a single, concentrated (or joint) effort. Activities at this level link strategy and tactics.<sup>5</sup>

The term "integrated command and control" embodies the systems that are used by military commanders to exercise their authority in regulating forces and functions. In essence, these systems are decision support and situational awareness systems that provide capability necessary to direct, collaborate, coordinate, and share information in the high-speed information age.<sup>6</sup>

In simple terms, C2 refers to a commander supported by their staff coordinating, planning, and executing operations to achieve strategic goals. It also includes the systems to provide situational awareness, intelligence, and coordination of joint (multi-element: army, navy, air force etc.) effects. Before the invasion of Ukraine in 2022, Russia gave every appearance that it was capable of commanding and controlling their significant military on expeditionary ops.

Russia began modernizing its military's C2 in the mid 2000s. In November of 2012, Putin appointed a new Defense Minister, Sergey Shoygu, and a new Chief of the General Staff,

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<sup>5</sup> Department of National Defence, B-GJ-005-000/FP-001, *Canadian Forces Joint Publication 01 - Canadian Doctrine* (Ottawa: DND Canada, 2011), 5-3.

<sup>6</sup> Ibid., 5-2

Valeriy Gerasimov.<sup>7</sup> Russia's strategic C2 is executed from the 'National Defence Management Center' (NTsUO) in Moscow, which was created by Shoygu in 2014.<sup>8</sup> Within the NTsUO, Operational C2 is executed by the Centre for Combat Control, directing the operations of the Combined Strategic Commands.<sup>9</sup> In stark contrast to Western Military Forces, the NTsUO has mini-HQs embedded in all subordinate HQs down to the Brigade level.<sup>10</sup> These embedded organizations provide situational awareness to the NTsUO, and pass direction to the organizations they are attached to, while being answerable only to the NTsUO. In Western Military Forces, these functions are conducted by the subordinate HQs themselves. The RuAF are commanded by 'Combined Strategic Commands' (OSKs) while conducting operational tasks such as joint exercises, deployments, and operations.<sup>11</sup> By 2014, the OSKs were consolidated down to five: OSK Western Military District, OSK Southern Military District, OSK Central Military District, OSK Eastern Military District and OSK Northern Fleet.<sup>12</sup> The final significant C2 modernization of the RuAF was the creation of the Military District – Wartime (VOVV).<sup>13</sup> In wartime, the VOVVs are commanded by the Deputy Commander OSK, and are responsible for "implementing martial law, internal security, and mobilization activities" in support of their respective OSK.<sup>14</sup>

The RuAF C2 modernizations were tested during major joint exercises, VOSTOK-2014 and VOSTOK-2018. These exercises allowed the RuAF to execute C2 from the strategic NTsUO

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<sup>7</sup> Greg Whisler. "Strategic Command and Control in the Russian Armed Forces: Untangling the General Staff, Military Districts, and Service Main Commands (Part Three)." *The Journal of Slavic Military Studies* 33, no. 2 (2020), 238.

<sup>8</sup> Ibid., 248. Note: The 'National Defense Management Centre' is Natsial'noi Tsentri Upravleniya Oborony (NTsUO) in Russian.

<sup>9</sup> Ibid., 249. Note: The 'Centre for Combat Control' is Tsentri Boyevogo Upravleniya in Russian.

<sup>10</sup> Ibid., 248.

<sup>11</sup> Ibid., 237. Note: The 'Combined Strategic Commands' is Operativno-strategicheskiye komandovaniya (OSKs) in Russian.

<sup>12</sup> Ibid., 243.

<sup>13</sup> Ibid., 247. Note: The 'Military District - Wartime' is Voyenniy Okrug Voyennogo Vremeni (VOVV) in Russian.

<sup>14</sup> Ibid., 247.

down to the tactical company level and included formations from three different OSKs.<sup>15</sup> The message to the West was clear, the modernized RuAF was able to execute C2 over a large force during opposed army-level exercises, and its integrated command and control systems could provide real-time situational awareness and direction from the strategic level down to the tactical. This was the RuAF the West was expecting before Russia began its current invasion of Ukraine in 2022.

The next aspect of the RuAF's capabilities to be explored is logistics. The greatest example of the RuAF's logistics capability was demonstrated during VOSTOK-2018. VOSTOK-2018 took place in Russia's East, with an estimated force of 297,000 soldiers, 1000 aircraft and 80 ships.<sup>16</sup> Not only an exercise in force projection over great distances, VOSTOK-2018 also demonstrated the RuAF's ability to mobilize and sustain a significant military force conducting joint operations over great distances. This exercise would have required supplies to be brought in by land (primarily rail), sea, and air to support such a large concentration of force. Even though most of the exercise participants came from the OSK Eastern Military District and the OSK Central Military District,<sup>17</sup> it still would require resupply to occur from the Western half of the country, Russia's production heartland several thousand kilometres away. As a comparison, the final large-scale Soviet military exercise was ZAPAD-81, with approximately 150,000 participants.<sup>18</sup> VOSTOK-2018 represented the largest military deployment and exercise in the RuAF's history. It demonstrated an ability for the Russian state to support and resupply a significant operational force. With this exercise alone as an example, it was evident that Russia

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<sup>15</sup>Daivis Petraitis. "Russian Mission-Command in VOSTOK Strategic Exercises." *Defense & Security Analysis* 35, no. 1 (2019), 101.

<sup>16</sup> "Russia's Vostok 2018 War Games," *Strategic comments* 24, no. 8 (2018), iv. <https://doi.org/10.1080/13567888.2018.1538274>.

<sup>17</sup> *Ibid.*, iv.

<sup>18</sup> Daniel Brown, and Associated Press. "Russia Just Put Its Military on High Alert Ahead of Massive War Games That'll Be 'Unprecedented in Scale.'" *Business Insider*. 20 Aug 2018. <https://go.exlibris.link/g5DW1gDx>.

was more than capable of conducting logistics at the Army-level over extended distances. So, when the RuAF massed almost 200,000 troops and equipment along the Ukrainian border starting in late 2021, the Western perspective was that the RuAF would have no problem projecting its forces into Ukraine. With its considerably shorter supply lines, extensive rail, canal, river, and road logistics networks when compared to VOSTOK-2018, it was hard to deny that this perspective was not based in fact.

Finally, the issue of RuAF preparedness will be discussed. As with the massive exercises of VOSTOK-14 and 18, the RuAF seemed they were operationally and strategically prepared for the invasion. Russia began its build up of forces along the Ukrainian border 6 months to a year before the invasion began. US intelligence publicly predicted in December 2021 that a large-scale invasion of Ukraine was going to occur in 2022 with as many as 175,000 soldiers.<sup>19</sup> This gave the RuAF plenty of time to build up logistics, equipment, and soldiers. But from an operational and strategic standpoint, it provided ample time to refine strategic goals and translate them into viable operational level plans. The time would allow for intelligence to ‘prepare the battlespace’ develop targets and understanding of the Ukrainian defences. Looking at the forces of both Russia and Ukraine, Russia’s military is seen as considerably larger. As of 2020, Russia’s annual military budget was \$61.7 billion.<sup>20</sup> This is ten times higher than Ukraine’s budget of \$5.9 billion.<sup>21</sup> Military budgets are a significant indicator of capability. A large budget means that a country can force generate a significant number of soldiers, have enough equipment for those forces, have more capable equipment, and of higher quality. When comparing Russia and Ukraine against one another by almost any metric, the RuAF is seen as a much more capable

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<sup>19</sup> Shane Harris, and Paul Sonne. “Russia Planning Massive Military Offensive against Ukraine Involving 175,000 Troops, U.S. Intelligence Warns.” *The Washington Post*. 2021.

<sup>20</sup> Diego Lopes da Silva, Nan Tian, and Alexandra Marksteiner. “Trends in World Military Expenditure, 2020.” Policy File. Stockholm International Peace Research Institute, 2021. 2.

<sup>21</sup> *Ibid.*, 2.

military. A military that was expected to use its larger force, better equipment, and its experience in the Syrian, Libyan, Chechen, and Georgian wars to quickly crush the Ukrainian defences.

When these three factors of C2, logistics, and preparedness are looked at through a pre-February lens, it is easy to draw the conclusion that Russia was more than capable of defeating the much weaker Ukrainian military. With NATO's refusal to dedicate troops to the defence of Ukraine to prevent this war from escalating to World War III, it was expected that the Russian invasion would be over in a matter of weeks. As of writing this paper, the Russian invasion has not gone to plan. Its significant military power has been stymied on two fronts: its capture of Kyiv has failed, and Ukraine has forced the RuAF to strategically and operationally re-orient its efforts to try and counteract the stiff defense provided by the Ukrainian defenders. This failure by one of the world's most powerful militaries has been surprising to many in the West. It begs the question, why has the RuAF failed to achieve its goals and defeat Ukraine?

### **Russo-Ukrainian War, an Analysis**

Why have the RuAF's modernized C2 structure and systems failed? Starting small, a significant deficiency the RuAF has when compared to Western militaries is its lack of a professionalized Non-Commissioned Officer (NCO) corps. NCOs provide the lowest level tactical C2; they're the sergeants who are controlling the troops in the close fight. NCOs translate the lowest level tactical orders into action. They ensure their troops are trained, capable, and motivated to fight through difficult battles. Although Russia may have made strides in modernizing its military after the Cold War ended and through to the beginning of this one, they failed to invest in their lowest level tactical leaders. This is significant for many reasons, and there are indications throughout the current conflict that this lack of a modern NCO corps has hindered Russia's advances in Ukraine. In a Western military, NCOs generally hold a higher level of tactical knowledge when compared with officers. They often spend their whole careers

at the tactical level, providing leadership at the platoon and company level. This is unlike the Officer corps, who spend as little time at those same levels before they are promoted and advance to higher levels of command. As an example, there have been many accounts of RuAF armoured units operating without infantry support and being blocked and decimated by the Ukrainian defences. When armoured and infantry units operate while mutually supporting each other, this is called combined arms operations. Combined arms operations allow for armour and infantry units to mitigate each others' vulnerabilities and are critical for fighting on the modern battlefield. An NCO from a Western military would have the tactical competence to realize that armoured forces fighting in close terrain (e.g., wooded and urban areas) without infantry support leaves them vulnerable to enemy infantry with anti-tank (AT) weapons. The NCO would use this knowledge to advise the officers in command combined arms operations are essential to tactical success in close terrain. They would also have the knowledge to operate with their compatriots in the other trade. According to open-source intelligence agency Oryx, there have been 600 picture verified Russian tank losses in this conflict.<sup>22</sup> Russia has lost more tanks in this conflict than most countries have in their arsenals. Losses to this magnitude can be attributed to poor tactical leadership and poor combined arms tactics. To only blame the lack of professional NCOs for the lack of combined arms operations would be overstating this argument, but it is a significant contributing factor, as seen in the VOSTOK-2018 exercise where combined arms operations were the norm and should be common practice throughout the RuAF.<sup>23</sup> This resident knowledge and tactical understanding would reside with the NCOs if they were professionalized like in the Western militaries.

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<sup>22</sup> Oryx. "Attack on Europe: Documenting Russian Equipment Losses during the 2022 Russian Invasion of Ukraine." Oryx, May 3, 2022. <https://www.oryxspioenkop.com/2022/02/attack-on-europe-documenting-equipment.html>.

<sup>23</sup> "Russia's Vostok 2018 War Games," *Strategic comments* 24, no. 8 (2018), v. <https://doi.org/10.1080/13567888.2018.1538274>.

On the modern battlefield, modern communications equipment is critically important to coordinate large formations, operations, and joint fires. Communications enable a military to execute ‘integrated command and control’ and are essential for C2. Russia’s military has modern military equipment, including radios capable of data transmission over large distances that are supposedly widespread throughout their forces.<sup>24</sup> For radios to be effective, they need to be secure and capable of working at distance. For secure communications, radios must be capable of scrambling transmissions and decoding received transmissions with cryptographic codes. This means that different radios must be compatible across formations and back to headquarters in the rear. They must be widespread to enable communications between the operational level OSKs and all tactical units. Communications between these levels of command also demand radios capable of communicating over long distance. The RuAF have the R-168 Akveduk family of radios capable of communicating up to 200km.<sup>25</sup>

Evidence suggests that these radios that are supposed to be widespread throughout the RuAF are not as common or capable as believed. There are many reports of Russian soldiers using civilian radios and cell phones to maintain communications with their higher headquarters.<sup>26</sup> This is important because neither cell phones nor civilian radios offer secure communications. Civilian radios operate in the clear, so anyone listening on the same frequency can hear what the RuAF are doing. This would cause obvious problems with keeping operations secret, as the Ukrainian forces would intercept and prepare for Russian attacks across the front. Using cell phones would offer similar and potentially more significant problems. They require infrastructure to operate (cell towers) which are owned and operated by Ukrainian companies

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<sup>24</sup> Sam Cranny-Evans and Thomas Withington, “Russian Comms in Ukraine: A World of Hertz,” Royal United Services Institute, 9 March 2022, <https://rusi.org/explore-our-research/publications/commentary/russian-comms-ukraine-world-hertz>.

<sup>25</sup> Ibid.

<sup>26</sup> Ibid.

and or the Ukrainian government. If messages cannot be outright eavesdropped on by the Ukrainians, the geo-location of the phone call would be readily available. This was very evident in the opening stages of the invasion when the Russian progress along its axes of advance could be tracked accurately by the geo-location of RuAF soldiers' cell phones with the google maps application.<sup>27</sup> If the RuAF does not have appropriate or sufficient communications equipment, its C2 would suffer greatly. It would not be able to achieve tactical surprise as the Ukrainians would be aware of their locations and their plans. The RuAF would have difficulty coordinating joint fires such as air, artillery and naval strikes in support of their advancing forces. The diminished capability to exercise C2 did not allow the Russians to quickly adapt to the changing battlespace, suffering significant delays while orders and plans would have to trickly down from the OSKs to the tactical Battalion Tactical Groups (BTGs). And finally, with the diminished C2 capability due to poor communications it would be extremely difficult to maintain situational awareness at the operational and strategic levels. This lack of situational awareness means that it is difficult to adjust to changing circumstances, in order to exploit weaknesses and opportunities in Ukraine's defence, and avoid reinforcing failure along the advance.

As with the state of Russian communications degrading their capabilities with C2, the modernization of their C2 structure has proven to be insufficient and inappropriate to meet the demands of this modern war. As discussed previously, the Command and Control structure of the RuAF is extremely stratified. The RuAF has shadow headquarters elements answerable only to the strategic level embedded throughout the levels of command down to the brigade level. This is an indicator of a Soviet like mentality, where the strategic level makes all the plans, and the operational and tactical levels execute those plans with little to no analysis of their own. This

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<sup>27</sup> Rachel Lerman, "On Google Maps, Tracking the Invasion of Ukraine," The Washington Post (WP Company, 28 February 2022), <https://www.washingtonpost.com/technology/2022/02/25/google-maps-ukraine-invasion/>.

inflexibility combined with the idea of never giving a dictator bad news, has compounded along the Russian front resulting in failed advances. The evidence of this comes from the deaths of Russian senior officers. In the C2 structure described above, when the strategic level of command realizes that there are problems at the tactical level, they send the generals to the front to fix the problems and get the advance back on track. This is done instead of working with the various levels of command to come up with solutions to tactical problems, because only the strategic level leaders are seen as having any capability when it comes to decision making and planning. This mindset has led to the deaths of 7-9 Russian generals, with some still awaiting confirmation or are disputed by Russia.<sup>28</sup> Proportionally, while accounting for the size of the militaries at the time, Russia has lost more generals in Ukraine since February than the Allies lost in World War II.<sup>29</sup> For comparison's sake, the US lost 33 generals during WWII, many of which were due to accidents and not combat.<sup>30</sup> These deaths are indicators that RuAF C2 is not up to task for this operation, and that the tactical level requires direct and constant supervision of very senior officers to execute its operations. Russia's operations will become more difficult as the war progresses as it is very challenging to replace senior commanders with decades of experience.

As Russia continues to struggle in its invasion against Ukraine, there are other indicators of a C2 structure that is insufficient for this size of operation. Instead of appointing a single Commander over the Ukrainian theatre of operations, Russia's invasion was planned in Moscow at the NTsUO, and executed by four of its OSKs. Each OSK had a different axis of advance,

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<sup>28</sup> Peter Caddick-Adams, "Peter Caddick-Adams on Generals Killed on the Battlefield," More Russian Generals Killed In Ukraine Than WW2 | History Extra (History Extra, 19 April 2022), <https://www.historyextra.com/period/second-world-war/russian-generals-killed-in-battle-compared-ukraine/>; Michael Schwartz, and Eric Schmitt. "Russia's Top Officer Visited the Front Line to Change the Offensive's Course, U.S. and Ukraine Officials Say." The New York Times. 1 May 2022. <https://www.nytimes.com/2022/05/01/world/europe/russian-general-dead-valery-gerasimov.html>.

<sup>29</sup> Ibid.

<sup>30</sup> Ibid.

OSK East towards Kyiv from Belarus, OSK Central towards Kyiv from Russia, OSK West into the Donbas region, and OSK South from Crimea.<sup>31</sup> With four army level operational headquarters planning and executing disparate operations it would have been extremely difficult for an HQ in Moscow to be the coordinating station for the entire campaign. From the Canadian definition of Operational Command in the above section, it is essential for an operation or campaign to be successful that the force coordinates and executes its task as a cohesive joint force. The Russians struggled to bring their force to bear on the Ukrainian defences, since it was the first time the RuAF conducted operations with this many OSKs.<sup>32</sup> With two of its axes failing to penetrate towards Kyiv, OSKs East and Central have retreated, and their forces redeployed to operations in the eastern Ukraine under the command of OSKs West and South. Russia has also appointed a single commander for the Ukraine invasion, General Aleksandr Dvornikov, Commander of OSK South.<sup>33</sup> This significant reorientation of the RuAF is evidence of a C2 structure that was not able to handle a campaign of this scope and complexity. It is also remarkable that the Russian strategists in Moscow failed to account for the Ukrainian ability and willingness to defend their homeland. The Russian strategy to quickly decapitate the Ukrainian Government in Kyiv leading to a quick surrender or destruction of the Ukrainian military failed to be achieved. Some of the blame could be attributed to tactical incompetence, but it is also due to setting unachievable strategic goals that a grounded understanding of the enemy and their own forces would have prevented.

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<sup>31</sup> Joe Varner and Aaron Wudrick, "Joe Varner: It's Been One Month since Russia Began Its Invasion of Ukraine. Here's Where We Stand," The Hub, March 28, 2022, <https://thehub.ca/2022-03-28/the-state-of-the-russian-ukrainian-war-one-month-in/>.

<sup>32</sup> Tim Ripley, "Ukraine Conflict: Russian Military Adapts Command-and-Control for Ukraine Operations," Janes.com (Jane's Find unrivaled intelligence, consultancy and advertising solutions to the defence and national security sectors., March 7, 2022), <https://www.janes.com/defence-news/news-detail/ukraine-conflict-russian-military-adapts-command-and-control-for-ukraine-operations>.

<sup>33</sup> Jack Detsch and Amy Mackinnon, "Russia's New Top Commander in Ukraine Is 'Willing to Sell His Soul'," Foreign Policy, 12 April 2022, <https://foreignpolicy.com/2022/04/12/russia-new-top-commander-dvornikov-ukraine/>.

At every level, from the tactical NCO level through to the strategic level, the RuAF's ability to effectively execute command and control over its forces has been inadequate. This is compounded by a systematic breakdown of integrated command and control due to poor and insufficient communications throughout the RuAF. Overall, Russia's C2 is a major contributor to its lack of success so far in the Ukraine invasion. They have shown some adaptation, with their re-orientation to the East and a simplified C2 arrangement, and time will tell if their mistakes become too much to overcome.

It is impossible to talk strategy without talking logistics. The question that will be answered is, why did the RuAF logistics fail to support their strategy and invasion into Ukraine? Russia had the better part of a year to build up its forces along the border before the invasion. This buildup would have included the establishment of logistics corridors and stockpiles to support the four axes of advance into Ukraine. Large amounts of fuel, food, and ammunition had been stockpiled along the border, ready to be used as required. Once the RuAF began the invasion, there were several cases of extended columns of vehicles parked waiting to advance. The most significant of these stalled columns was from Belarus down to Kyiv, where it reached 60km at one stage.<sup>34</sup> Combined with the fact that there have been at least 424 vehicles, from tanks to self-propelled artillery, that have been abandoned by RuAF in Ukraine, there is evidence of widespread logistics problems plaguing the invasion.<sup>35</sup> Not all of these abandoned vehicles are necessarily due to logistics, but a common reason to abandon a vehicle would be because it ran out of fuel with little hope of getting resupplied in a reasonable timeframe. So how did a professional military force get their logistics plan so wrong? The RuAF had sufficient time to

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<sup>34</sup> Mhugos. "Russian Logistics for the Invasion of Ukraine." SCM Globe, April 14, 2022. <https://www.scmglobe.com/russian-logistics-for-the-invasion-of-ukraine/>.

<sup>35</sup> Oryx. "Attack on Europe: Documenting Russian Equipment Losses during the 2022 Russian Invasion of Ukraine." Oryx, May 3, 2022. <https://www.oryxspioenkop.com/2022/02/attack-on-europe-documenting-equipment.html>.

stage the required logistics, but they struggled to get the logistics from their railheads in Belarus and Russia to where the front-line troops needed it. As an example, the 76<sup>th</sup> Brigade as part of OSK East advancing from Belarus to Kyiv at 60km would need 275 trucks worth of resupply per day to keep the force fully resupplied.<sup>36</sup> The RuAF did not have enough trucks to adequately resupply their forces with extended supply lines.<sup>37</sup> This is before considering combat losses of RuAF logistics vehicles. This is important to note, as a proper consideration of logistics factors would have driven different courses of action at the strategic level. The RuAF would have been much better served tactically and operationally if they concentrated their forces on a narrower frontage from the beginning. This concentration of force would have allowed a concentration of logistics, the securing of rail infrastructure in Ukraine to support more troops. The resulting decrease in the amount of combat troops required to conduct rear-area security tasks protecting supply lines and supply depots would have benefitted the Russian advance. As they say, an army marches on its stomach. Underestimating the amount of supply needed for a force on the offensive and not having enough logistics vehicles staged to support said force is a critical failure on the Russian side.

Finally, looking at RuAF preparedness the question is raised, why hasn't the much more powerful RuAF been able to overcome the Ukrainian military? For a country that spends around \$60 billion on its defence budget year over year, Russia has had difficulty fielding a modern military. Although it has many tanks in its arsenal, most of them are T72s which began production in the Soviet Union in 1971. They have been upgraded multiple times over the years with Explosive Reactive Armour (ERA) and more modern gunner sights, but they are still based

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<sup>36</sup> Mhugos. "Russian Logistics for the Invasion of Ukraine." SCM Globe, April 14, 2022. <https://www.scmglobe.com/russian-logistics-for-the-invasion-of-ukraine/>.

<sup>37</sup> David Axe, "The Russian Army Is Running out of Trucks for Its War in Ukraine," Forbes (Forbes Magazine, March 18, 2022), <https://www.forbes.com/sites/davidaxe/2022/03/18/as-predicted-the-russian-army-is-running-out-of-trucks-for-its-war-in-ukraine/?sh=50ac7b56577c>.

on a platform that's 50 years old. In fact, the most modern tank in Russia's arsenal is the T-14 Armata, which has not been seen in Ukraine likely due to low numbers of units available.<sup>38</sup> The T-14 started production in 2013-2014, and by all accounts is a modern main battle tank. Not having enough T-14s to field 8 years after they first rolled off the line is an indicator of trouble with Russia's procurement process and manufacturing capability. There could be plenty of reasons why the T-14 is not ready for combat yet, but with a \$60 billion budget those reasons should not have been insurmountable. So Russian equipment is aged and is not holding up in this modern conflict. By sheer numbers alone, they should have been able to break the Ukrainian defences. The RuAF's advantage in numbers is mitigated by two factors; Ukrainian AT weapons supplied by NATO and other Western nations and the fact that the Ukrainian forces are fighting in the defence.

As Russia attempted to attack over an extremely broad frontage, they often lacked the concentration of force required to do combined arms operations. This error is compounded by the effectiveness of the AT weapons used by Ukrainian forces, such as the FGM-148 Javelin, NLAW, Stuhna-P and others, which have been used to devastating effect in the conflict. Additionally, since the Ukrainians are defending, they have a numerical advantage when the RuAF is spread thin. In NATO doctrine, the attacking force at a minimum should have a 3:1 up to a 9:1 advantage in numbers depending on the defences, and where they are located (an attacking force should have a 9:1 advantage in an urban fight for example). As with the logistics and C2 shortcomings, understanding the Ukrainian forces would have been essential for the RuAF to rehearse and prepare for the invasion. Just by sheer numbers alone, the RuAF should

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<sup>38</sup> Peter Suci, "We Might Know Why Russia's New Armata Tank Is Missing from Ukraine," 19FortyFive, March 16, 2022, <https://www.19fortyfive.com/2022/03/we-might-know-why-russias-new-armata-tank-is-missing-from-ukraine/>.

have realized that a narrow frontage would be required to get the force concentrations required to defeat the Ukrainian defences and their advanced AT weapons.

Along with the folly of spreading forces too thin, there are indications that Russia made very little tactical preparations for the invasion of Ukraine. Believing that there would be little resistance, Russia invaded without telling their lowest level troops that they were going to war.<sup>39</sup> This means that there were no tactical rehearsals done and RuAF soldiers weren't prepared or briefed on their missions. Rehearsals should always be done before military operations. They would have allowed the RuAF to work out combined arms operations in conjunction with fire support from air and artillery assets. This serious lack of preparation harkens back to the first Chechen war, where the RuAF moved into Grozny unprepared and were slaughtered. It's fitting that this appears to be the case, but the Ukrainian invasion hasn't been a blunder due to one error. The errors seen when observing the RuAF since February have compounded upon each other and begin to reinforce failure. Russian preparedness has been abysmal due to lack of proper equipment, not considering the Ukrainian defences properly, and failing to prepare the soldiers that would be leading the push towards key military targets within Ukraine.

## **Conclusion**

It was not long ago that the West was wholly focused on counterinsurgency and stability operations. Russia's newfound aggression with the initial invasion of Ukraine in 2014, and full-scale conventional warfare in 2022 has been an unfortunate and surprising shift in the use of military power. But nothing has been more surprising the RuAF performance in this conflict. Not long ago, the RuAF was seen as one of the most significant militaries outside of NATO. By all accounts and expectations, Russia was predicted to be extremely effective in their war of

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<sup>39</sup> Isaac Chotiner, "The Russian Military's Debacle in Ukraine," The New Yorker, March 11, 2022, <https://www.newyorker.com/news/q-and-a/the-russian-militarys-debacle-in-ukraine>.

aggression against their neighbour Ukraine. They had the size, budget, equipment, training, and experience advantage, which should have enabled them to overwhelm the much weaker Ukrainian defenders. Now it is two months into the invasion, and the RuAF has failed to achieve any of their strategic objectives, and the war is transitioning into a brutal fight in the Donbas region through to Crimea. This paper sought to ask why Russia has failed to perform and meet expectations. The RuAF's lack of NCOs, combined arms tactics, inadequate communications, and inappropriate command structure have contributed to a breakdown in command and control that has been disastrous to the invasion. Its inability to plan and execute logistics have contributed to stalled and failed advances as well as a significant loss in equipment and resources. And finally, the RuAF's preparedness has been deficient due to old equipment, improper assessment and preparation for a tough tactical fight, and poorly prepared soldiers. When taken as a whole, these problems have shown the RuAF to be lacking in capability to conduct large scale offensive operations.

Studying a conflict in progress from the other side of the world can be reductive and overly simplistic. The factors examined in this paper are just a few that have contributed to the invasion so far. A deliberate emphasis was placed on the RuAF and has avoided much of the discussion of NATO support to Ukraine. This support has been significant and has contributed to the Ukrainian defence and the stymied Russian invasion with both arms supplies and training. But the most important and intangible factor that has contributed to the Ukrainian defence is the Ukrainians' will to fight. Underestimated by Russia, the Ukrainian efforts have been extraordinary. Three months ago, no one would have thought that Ukraine could defeat Russia. Betting against them now might be the same folly that has brought Russia to this spot in history.

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