THE NEW LIGHT CAVALRY OF THE 21ST CENTURY – ANALYSIS OF THE INNOVATION AND EMPLOYMENT OF MOTORCYCLE ASSAULT GROUPS BY THE RUSSIAN ARMY IN THE UKRAINE WAR –

Colonel Marius GHEORGHESCU
The 307th Naval Infantry Regiment "HERACLEEA"
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Given the increasing speculation regarding the effectiveness of Motorcycle Assault Groups, especially on a relatively static battlefield oversaturated with artillery, missile and drone operations, we have conducted a focused investigation to better understand this evolving tactic. This article provides a first-hand assessment of the organization, tactics, and equipment of the Motorcycle Assault Groups of the Russian Armed Forces as of June 2025. The article is based primarily on open-source information, published documents captured at the tactical level by the Armed Forces of Ukraine, reports from Ukrainian infantry fighting in contact, images/ video captures from Ukrainian frontline surveillance drones, publicly available interviews with motorcycle crews of the Russian Armed Forces, and even available official reports issued by the Armed Forces of Ukraine.

Keywords: motorcycle assault groups; FPV drones; assault tactics; reconnaissance-surveillance; portable C-UAS system;

INTRODUCTION

The short time between detection and engagement, driven by real-time surveillance with reconnaissance drones and the high response speed of FPV attack drones, has created a particularly hostile environment for the use of traditional armoured tactical vehicles (tanks, infantry fighting vehicles/IFVs, armoured personnel carrier/APCs) on the modern battlefield. As a result, both forces involved in the Ukraine War have been forced to adapt rapidly and in a highly innovative manner.

Such adaptation first appeared in 2024, when the first *motorcycle assault groups* of the Russian Armed Forces began to be seen with increasing frequency along the Russian-Ukrainian frontline. Their presence quickly attracted public attention, and their use in combat has since become a common feature of front-line combat engagements. More recently, Ukrainian forces have also announced the establishment and training of their own motorcycle assault units (Bussines Insider, 2025).

Throughout recent history, motorcycles have been a feature of unconventional/guerrilla warfare, particularly among non-state actors in regions such as Africa. However, their use by modern professional state armies has traditionally been limited to reconnaissance roles through patrols or, at most, light logistic support. This has changed dramatically in the Russo-Ukrainian war, where the widespread use of unmanned aerial systems/UAS, particularly FPV drones, has reshaped battlefield tactics. A recent study by RUSI (Royal United Services Institute) estimated that drones were responsible for 60-70% of the damage or destruction of Russian military systems. In this environment, traditional armoured vehicles – once essential for manoeuvre warfare – have become extremely vulnerable. This has led both Russian and Ukrainian forces to adapt, increasingly relying on motorcycles and ultra-light all-terrain vehicles (All-Terrain Vehicle/ATV, buggy1) to increase mobility, speed and flexibility of infantry in particular. These vehicles are now used

[1] ***"Buggy"*** is a term generally used to refer to any light (ultra-light) automobile with off-road capabilities and minimal bodywork. Most are built either as vehicles assembled from parts of different origins or entirely from scratch. The word *"buggy"* was originally used in Great Britain to describe a light two-wheeled carriage for a single person and later in the United States to describe a common four-wheeled carriage. The term was extended to light automobiles as these became popular. The term briefly fell out of use before being revived to describe more specialised off-road vehicles (author's note).

not only for assault, but also for reconnaissance, logistical support (resupply, medical evacuation, etc.) and support for tactical electronic warfare teams, especially in terrain where heavy armoured vehicles are ineffective or too easy to spot.

Photo 1: Motorcycle Assault Group from the 299th Parachute Regiment (VDV) of the 98th Airborne Division of the Russian Federation army, during a tactical field exercise
(https://x.com/ukraine_world/status/1916823309989147027)

The war in Ukraine has evolved into a phase where any movement is determined by the massive presence of surveillance drones and artillery, missile or FPV drone strikes on the front line. More and more small (or ultra-light) vehicles are entering the action at the expense of traditional tactical armoured infantry vehicles (IFVs, APCs, tanks), which are slower and easier to detect. Following observations on the Pokrovsk front sector, three different Ukrainian infantry battalions provided some examples of the change in battlefield evacuation of the wounded: now this can only be done at night using ultra-light vehicles, such as buggy-vehicles. Ukrainian military analysts and those of its Western allies have noted the use of these vehicles in attacks by some units of the Russian Army since April 2024. Videos broadcast by Russian media and online military reports show a large fleet of all-terrain vehicles from regimental units of the 123rd Motorized Infantry Brigade in Donetsk *(photo 2)* or from the 71st Motorized Infantry Regiment on the Zaporozhye front.

Photo 2: Motorcycle Assault Group of the 123rd Motorized Infantry Brigade, presented on Russian television (El Pais, 2024)

In this latter case, images published by its staff show motorcycles on which metal cages have been installed to protect crew members from FPV drone attacks *(photo 3)*.

Photo 3: Motorcycle belonging to the Russian army on which a protective cage against FPV drones was improvised (Telegraph, 2024)

In recent months, Russian soldiers have been recommending on their Telegram the use of electric motorcycles accounts because they are quiet and harder to detect by drones equipped with thermal imaging systems. *"Motorcycles are a good tactic because they are harder for drones to intercept, they are less noisy and faster than armoured vehicles or SUVs"*, says Andrii, a soldier with the 3rd Assault Brigade of the Ukrainian Armed Forces (El Pais, Ib.), adding that *"the Russians are using them in large numbers and they are getting better"* (Telegraph, 2024). In another sector of the Donetsk front, in Kostiantinivka, a non-commissioned officer with the 93rd Mechanised Brigade of the Ukrainian Armed Forces confirmed the change in tactics to the newspaper *"El Pais"* on 8 June 2024: *"The Russians have everything for infantry transport, and now they have motorcycles. These are the worst, because they are difficult to detect, and our men cannot identify what that distant noise is"* (El Pais, Ib.). The patterns of action of these Russian units that have been determined are the same with those of the soldiers of the 93rd Mechanised Brigade and the 3rd Assault Brigade of the Ukrainian Armed Forces: *"groups of eight soldiers from professional assault units ride four motorcycles, leaning at dusk or at night and, undetected, reach their front-line trench or directly attack Ukrainian positions".* Rob Lee, a military expert at the US Foreign Policy Research Institute, confirmed last April on his *"X"* account that *"the advantage of the motorcycles is that they get to the trenches earlier and are harder to locate. The attacks are staged in coordination with artillery and FPV drones"* (Ib.).

CONDITIONS FOR ADOPTION

One of the key conclusions of this research is that, before extrapolating the experience of the Russian Army Motorcycle Assault Groups to other theatres of operations or advocating for their adoption by other forces, we should first understand the subsequent challenges and battlefield conditions that led the Russian Army to pursue this adaptation in the first place.

In a battlefield where neither side holds air supremacy, and large-scale combined arms operations remain difficult to execute, combat has shifted to smaller tactical formations (small units) – typically at the squad, group, platoon, or at most company level, supported by armoured vehicles. In such a combat environment, traditional armoured platforms such as tanks, IFVs, or other types of armoured tactical vehicles face increasing challenges, especially in the context of constant artillery fire and the widespread use of cheap and fast FPV drones.

In response to these challenges and the accelerated depletion of reserves of armoured tactical vehicles, the Russian Armed Forces have increasingly relied on small tactical units that use covert movement and infiltration through uncovered spaces of the Ukrainian defence (or increasingly difficult to cover due to high personnel losses), to reduce the risk of detection. However, this comes at the cost of mobility and operational flexibility. Once detected, such groups are often quickly eliminated by FPV drone attacks or artillery fire. Even when they achieve tactical success, their ability to exploit gaps in Ukrainian defences is severely limited when operating on foot (dismounted). In these circumstances, the main factors that created the conditions for the emergence and increasingly widespread use of motorcycles on the battlefield are the following:

a. *the persistent inability of the Russian Army to execute large-scale coordinated combined arms operations capable of breaking through Ukrainian defence*; even when Russian forces manage to form significant force groups (including hundreds of tanks, APCs, artillery systems, missile units, and air defence systems), they continue to struggle with the integration and synchronization necessary for effective combined arms offensive operations; as a result, Russian forces have switched to deploying small, inferior assault groups in small-scale but high-frequency attrition attacks; this approach focuses on *gradually exhausting* Ukrainian forces and identifying weaknesses that can be exploited later;
b. *the lethality of well-prepared Ukrainian defensive positions, especially those supported by real-time reconnaissance-surveillance systems and high-precision strike systems*; on the modern battlefield, advanced surveillance systems allow defenders to quickly identify high-value targets, while precision massed fire makes it possible to neutralise attackers;
c. *the limited number of personnel and their reduced ability to control/ maintain the defence sectors held by Ukraine facilitate the passage (infiltration) of small mobile units of Russian forces through the defence*; unlike conventional light or armoured infantry groups, successful motorcycle infiltrations facilitate penetration deep into the rear area, while remaining more difficult to observe and block (neutralise) with artillery and, at the same time, more capable of neutralizing Ukrainian forces' FPV drones using portable electronic warfare (jamming) systems mounted on motorcycles;
d. *high tolerance for personnel losses in offensive operations*; as will be discussed later in this article, the assault tactics of the Russian Motorcycle

Assault Groups depend on the mass deployment of forces; the concept accepts higher losses among assault units, as long as a small portion of them manage to break through enemy lines and fulfil the mission objective;

e. *lack of options for transporting troops with tactical armoured vehicles*; while Soviet-era infantry fighting vehicles (BMD family) or armoured personnel carriers (BTR family) are vulnerable to FPV drones, more modern Western-made armoured vehicles such as the Bradley or CV-90 offer better protection and have demonstrated better survivability for transported infantry during artillery strikes or FPV drones; the current fleet of tactical armoured vehicles of the Russian Army does not have a viable, mass-produced alternative to provide better protection for troops;

f. *Ukraine's geography and seasonal conditions favour mobility*; the dry and flat steppe terrain, with many forest/shrub patches and rural areas significantly increases the effectiveness of attacks using motorcycles; in contrast, heavy snow, mountainous areas or dense forests are much less suitable for this type of manoeuvre.

Once the advantages of Motorcycle Assault Groups became clear, we assessed whether their benefits could justify the risks. At around $2,000-$4,000/bike (depending on model and condition), these motorcycles are much cheaper and easier to replace than infantry fighting vehicles, with minimal maintenance costs. Their mobility and low profile allow them to traverse obstacles and evade detection more easily than larger platforms – especially when equipped with deployable electronic warfare systems on board. Concealed even in small buildings and nearly silent at night in the electric motorcycle variant, they maintain the element of surprise. A motorcycle can reach a position in minutes, outpacing a noisy and slower infantry fighting vehicle or tank and greatly reducing the response options of enemy FPV drones. Finally, motorcycles allow teams to carry heavier portable weapons – portable anti-tank systems/ATGMs, grenade launchers, or other support weapons – along the flanks, providing rapid and flexible fire support where it is needed most.

ORGANISATION OF FORCES

Despite the meaning of the term *"assault"* in their name (original in Russian – Штурмоваягруппамотоциклов/МШГр), these subunits are not used exclusively for direct assault. In practice, their roles are more diverse – from reconnaissance and diversionary manoeuvres to infiltration behind enemy defences, logistical support and support for enveloping manoeuvres during larger offensive operations.

More importantly, the motorcycle serves primarily as a means of rapid transport, transporting forces to assigned objectives rather than serving as a combat platform in its own right. According to some American military analysts, a relatively more accurate historical analogy can be seen with the *"dragoons"* troops, a type of light cavalry – infantry that moved on horseback to the combat zone, but dismounted to fight on foot. The Dragoons were used for reconnaissance, security, envelopment/ flanking, and even close combat – tactical roles that closely resemble how the Russian Army's Motorcycle Assault Groups are now used2.

Russian motorcycle units have also begun to adapt. Reports from Ukrainian sources indicate that Russian assault motorcycles are equipped with iron cages to defend against drone attacks *(photo 2)* and in some cases, with portable electronic warfare (EW) equipment designed to jam approaching drones. These units are not just agile; they are increasingly networked and self-protected – illustrating a clear shift towards integrated and flexible force structures. The basic organisation of a Motorcycle Assault Group can vary depending on the unit, its assigned tasks, and the available resources of the unit to which it belongs. However, in general, such a group usually consists of 6 to 8 motorcycles, with 1 to 2 motorcyclists per vehicle, resulting in a total number of personnel ranging from 6 to 16 people on average *(figure 1)*.

At least one motorcycle in the group is usually equipped with a portable drone scanner (mini-radar), which scans the area for the presence of FPV drones. In addition, these groups are expected to carry 2-3 portable C-UAS EW jamming systems, either mounted directly on the motorcycles or carried in a backpack by a biker, to disrupt communications between hostile (Ukrainian) drones and their operators during the assault *(photo 4)*.

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[2] *"Dragoons"* is a category of mounted troops that originally served as infantry using horses for transport, but fought on foot, although they later operated as conventional mounted cavalry. The name comes from a type of short musket or carbine – the *"dragoon"* (a pistol-like version of a trumpet that emitted a burst of fire when fired), carried by these soldiers. Dragoons were a versatile and cost-effective military force, serving in many European armies from the 17th century onward for tasks such as reconnaissance, security, raiding, and even acting as rearguard or support for infantry units. Dragoons were established in most European armies in the late 16th and 17th centuries, offering a cheaper option than traditional cavalry. Dragoons captured and held strategically important positions, such as bridges and passes. They also guarded camps and supplies, served as scouts, and performed police duties. As warfare evolved, dragoons increasingly served as conventional cavalry, often as medium or light cavalry. In the 20th century, dragoon regiments were often converted to armored units. The term has also been used for mechanized infantry units, reflecting their continued role in mechanised warfare. Today, some armored or ceremonial mounted regiments in various countries, such as the Royal Dragoon Guards of the British Army or the Royal Canadian Dragoons of Canada, retain the title *"dragoons"* (author's note).

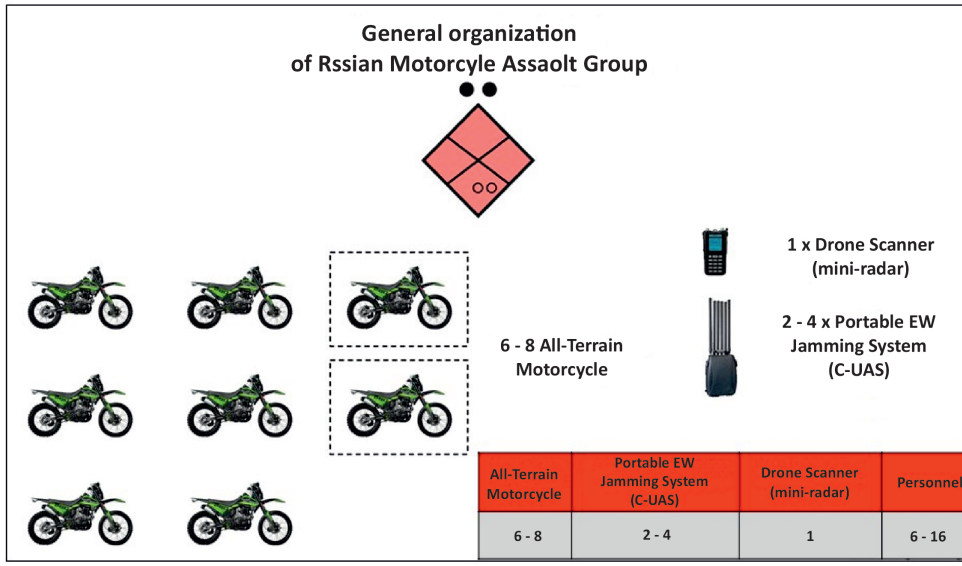

Figure 1: Organization and basic equipment of a Motorcycle Assault Group within Russian Army[3]

Photo 4: Soldier of the Russian Army equipped with a portable C-UAS EW system (Ib.)

Typically, motorcycles carry two passengers, with the passenger being the primary fighter, ready to engage both ground targets and aerial threats such as drones while on the move *(photo 5)*. In some cases, motorcycles are equipped with a handlebar-mounted machine gun mount for the rider, allowing for limited firepower. However, a handlebar-mounted machine gun for the rider still appears to be quite uncommon in practice.

[3] Adapted from https://substackcdn.com/image/fetch/$s_!C6Eg!,f_auto,q_auto:good,fl_progressive:steep/https%3A%2F%2Fsubstack-post-media.s3.amazonaws.com%2Fpublic%2Fimages%2F3adacfbd-32d4-4c09-bd2f-0c75958a2e50_1906x1079.png

Photo 5: Motorcycle crew training firing from the move at ground targets, with small infantry weapons
(Strefa Obroni, 2025)

This change represents a tactical evolution – an adaptation to drone-dominated battlefield, which blurs the line between infantry and cavalry. As Andrii – the same Ukrainian soldier from the aforementioned 3rd Assault Brigade – said in an interview with the newspaper *El Pais*, *"such units resemble a form of fast assault light cavalry"*. He also described a successful penetration of Ukrainian lines near Pokrovsk in April 2024, using ATVs. This was not an isolated incident: Russian motorcycle and ATV units were officially integrated into offensive operations by mid-2024, with the Russian Ministry of Defence publicly acknowledging their role in offensive efforts and front-line supply operations (El Pais, Ib.).

COMMON TYPES OF MANOEUVRES USED BY MOTORCYCLE ASSAULT GROUPS IN COMBAT

The main types of manoeuvres used by Russian forces in combat are the following:

a. *simple envelopment* – represents the type of manoeuvre in which motorcycles surround the enemy position from one side to attack from an unexpected direction;

b. *double envelopment/"pincer" manoeuvre* consists of simultaneous flanking from both sides to overwhelm or encircle the enemy *(photo 6)*.

c. *penetration in depth* involves a rapid advance beyond the first line of defence to disrupt rear area logistics, force rotation/replacement, etc.

d. *the diversionary manoeuvre* aims to attract the attention of the defending enemy and divert fire away from the main assault force *(photo 7)*.
e. *reconnaissance by fight* aims to *"probe"* enemy positions (disposition, combat power, main weapons, reserves, logistics, etc.) while maintaining mobility within the enemy defence device, often testing the defensive reaction and locating weak points.

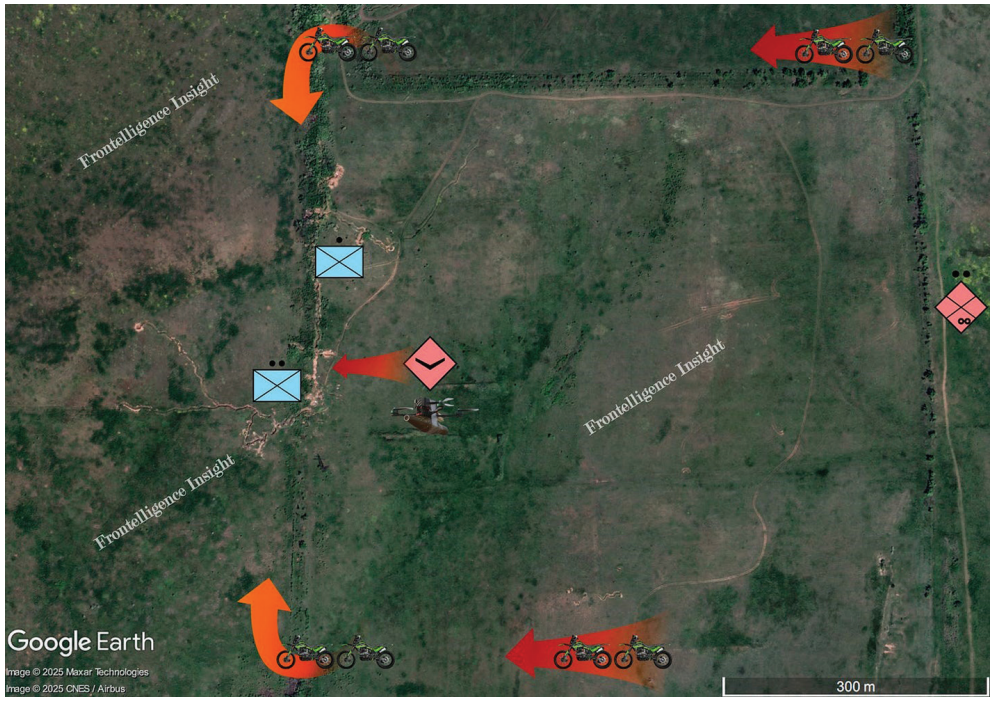

Photo 6: Double envelopment/"pincer" manoeuvre (Frontelligence Insight, 2025)

Beyond the contact combat in which they engage with Ukrainian forces, the Motorcycle Assault Groups also perform other support roles – they perform limited medical evacuations – extracting the wounded one by one due to space and weight constraints and transporting critical supplies, such as food, water or ammunition, within the load limits of the motorcycles. In offensive operations, these groups have moved forces even inside urban objectives; during the capture of the city of Kurakhove, columns of 3-4 motorcycles rapidly transported small groups of soldiers into the city; ultimately, they rotate individual fighters to/from frontline positions, limited only by the transportation capacity of the motorcycles, but offering a faster alternative to moving on foot or in a vehicle.

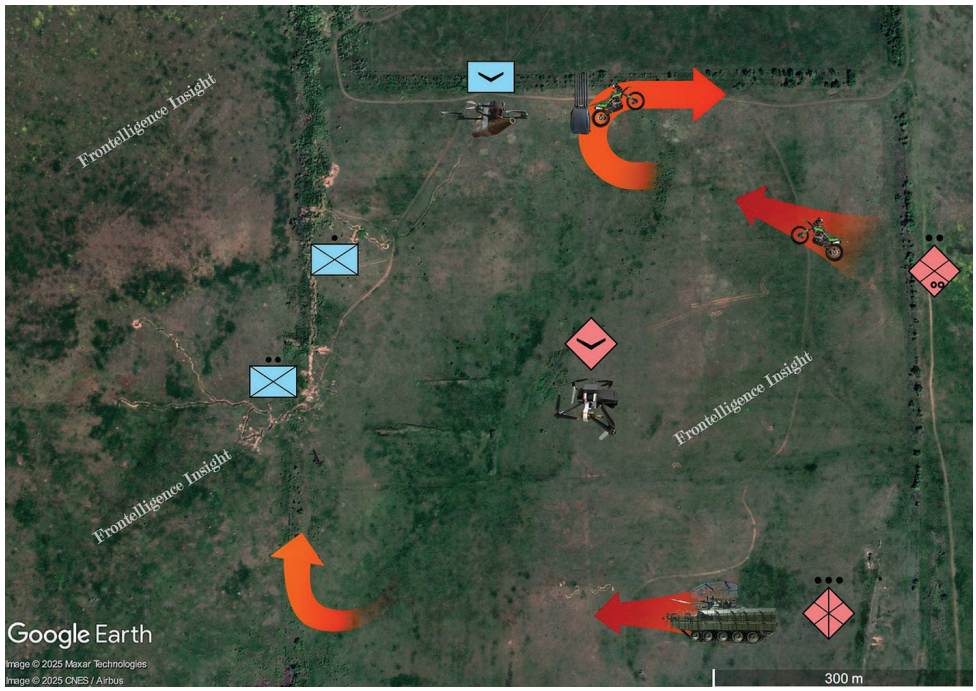

Photo 7: The diversionary manoeuvre (Ib.)

What makes these tactics so effective is the unique combination of speed and decentralisation. Unlike (heavy) armoured tactical vehicles, which carry large numbers of soldiers and are important targets for drones, motorcycles offer a dispersed and fast alternative. Assault Groups – often numbering between a dozen and a hundred bikers – can move quickly over rough terrain, giving drone operators and forward artillery observers (FOs) little time for interception. Furthermore, neutralising a single motorcycle usually requires the same resources as stopping a large armoured tactical vehicle, making them much more cost-effective and tactically elusive.

MOTORCYCLE ASSAULT GROUP TRAINING AND EXERCISES

Although there were no systematic efforts to implement a unified training program within the Russian Army as of early 2024, a number of local initiatives, coordinated at the tactical level, emerged from the bottom up (as innovative solutions). These early efforts resulted in a lack of coordination and consistency. However, by the summer of 2024, the Russian Ministry of Defence initiated measures to formalise training programs for motorcycles and tactical ultra-light all-terrain vehicles (ATVs) in training centres across Russia. In July 2024, during

a visit to a training centre in the Leningrad Military District, Russian Defence Minister Andrei Belousov emphasized the need for dedicated courses for tactical actions on ATVs, buggy-vehicles, and all-terrain motorcycles (Nova News, 2024). He noted their growing role in the rapid supply of ammunition, food, and evacuation of the wounded from combat positions on the front line of defence. Since spring 2025, training of fighters and subunits on all-terrain motorcycles and ultra-light tactical ATV vehicles has been underway both in the ground forces of the Russian Federation and in the occupied territories of Ukraine, integrated training in force groups at the tactical and operational levels. Training usually takes place on improvised or semi-permanent motocross-style tracks designed for motorcycles and other light off-road vehicles. While the quality of these training facilities varies, they tend to have key common features: obstacle courses/tracks simulating minefields, rough terrain, steep climbs and descents *(photo 8)*. Training exercises often culminate in the assault phase, in which fighters dismount from motorcycles to attack targets from firing positions or storm simulated enemy trenches and shelters.

Photo 8: Phases during off-road motorcycle training (clockwise) – driving off-road motorcycles in obstacle course, assault exercises with infantry dismounting, training evaluation and driving off-road motorcycles in the complex field (Ib.)

Advanced training include UAS/drone team-supported exercises, where instructors simulate enemy FPV drone attacks and evaluate the performance of the strike groups to provide feedback. However, there is limited information on how rigorous these after-action reviews are or how much time is dedicated to correcting deficiencies. The length of the training module varies widely. Basic off-road motorcycle instruction

typically spans at least 16 hours, while more advanced tactical courses – including combat manoeuvres and motorcycle-based assault techniques – can last up to two months. However, in combat conditions, where personnel turnover is high, the full course is rarely feasible. As a result, most trainees likely follow condensed training programs that reportedly last between 2 and 4 weeks.

However, it is important to note that the details of the training/exercises, organisation, and combat performance of these units can vary significantly between formations and large units – and we do not have unified data/information from across the entire front line to provide a definitive, fully data-driven conclusion.

MOTORCYCLE INVENTORY

Given the scale of the war and the demands placed on the Russian Army, a question naturally arises: *Where do the off-road motorcycles come from, what models are used,* and *Is the Russian Army able to meet its needs with domestic production?* The short answer to the last question is – no. Most of the off-road motorcycles deployed to the front are manufactured abroad, predominantly from China. This comes down to two basic factors: cost and production volume. Although the Russian Defence Sector was developing motorcycles even before the war (and even stepped up its efforts once demand increased), it still fails to meet the needs of the front. Equally important, it seems that the Russian industry is not the only supplier yet. As in the case of drones, motorcycles often reach units through volunteers, local authorities in the unit's home region, personal purchases of servicemen, and state purchases. Given the decentralized supply of motorcycles, the motorcycle fleet of Russian units is remarkably diverse. However, as previously mentioned, Chinese-made off-road models, especially *enduro* motorcycles, are dominant. In June 2025, one of the most common models seen on the battlefield was produced by the Dubai-based company *Sharmax Motors* with production facilities in China. Among the most commonly used are the *Sharmax Sport 280* models from the *enduro* line *(photo 9)*, with prices ranging from 180,000 to 300,000 rubles (approximately $1,900 - $3,200).

Another emerging alternative, although still less common, is the use of electric motorcycles. These are gaining ground due to several advantages over gasoline-powered models: they are significantly quieter and harder to detect with thermal imaging.

The conflict in Ukraine has made a wider range of lightweight off-road platforms operationally relevant. While motorcycles are effective for rapid and agile troop

Photo 9: The all-terrain motorcycle Sharmax Sport 280 (Ib.)

movements, ATVs offer distinct advantages in terms of payload, stability, and off-road capability – occupying a critical niche in the current conflict. Their ability to transport troops, ammunition, equipment, and evacuate the wounded over rough terrain meets urgent operational needs. By the end of 2024, reports indicated that Russian forces were officially training troops in tactical actions with ATVs, signalling their growing tactical importance *(photo 10)*. Unlike motorcycles, which excel in speed and range for rapid attacks, ATVs offer greater versatility, supporting a wide range of roles from close-in assault to front-line resupply. Their greater payload and terrain-handling capabilities make them particularly valuable as the logistical backbone of operations conducted under the persistent threat of enemy drones and artillery.

However, while motorcycles and ATVs excel as mobility platforms, they remain ineffective as combat platforms compared to traditional armoured tactical vehicles – rather than acting as traditional cavalry, Motorcycle Assault Groups operate more in dismounted infantry-specific actions. Tanks and traditional armoured tactical vehicles still offer an unmatched advantage. The challenge is not to replace armour, but to rebalance its role within a broader combined arms approach. Motorcycles can allow troops to cross-contested districts or avoid detection, but they cannot replace the brute force and endurance of well-supported mechanised units.

Photo 10: ATVs and buggy-vehicles used by Russian Army in Ukraine
(TCH, 2025; Global Defense News, 2025; Global Defense News, 2023)

FEEDBACK IN COMBAT FROM THE UKRAINIAN PERSPECTIVE

Battlefield theories and expectations stemming from tactical experiments often differ from reality. Many Ukrainian military personnel interviewed expressed skepticism about the growing *"emulation"* around off-road motorcycles as a battlefield wonder, emphasising that while off-road motorcycles may be useful in certain conditions, they remain just a platform – far from a transformative innovation.*"Lincoln"* the codename of a Ukrainian tank company commander on the Bakhmut and Chasiv-Yar fronts, assessed the situation on 29 May in the Ukrainian publication *"Censor Net"* – *"They Russians are carrying out assaults with buggies and motorcycles. I can't imagine how motivated you must be to do this. A conscientious person knows that 90% of them will end up being 200 [military terminology for being killed in action]"*. Another Ukrainian publication specialising in military intelligence – *"Militarnyi"*, concluded that *"it is not clear whether the vulnerability of motorcycles compensates for their use; their speed makes it possible to reduce the time they are in the open, minimizing the possibility of being detected and destroyed. But, despite their speed and manoeuvrability, they are often easy targets for drones and artillery, and due to their lack of protection, their crew members' chances of survival are minimal"* (Ib.). Numerous videos are circulating on social

networks with motorcycles destroyed by drones, as well as with Motorcycle Assault Groups avoiding explosions more easily than armoured vehicles or SUVs. Andrii, the Ukrainian soldier of the 3rd Assault Brigade, has no doubt that the Ukrainian army should include the use of motorcycles, if not for attacking (the Ukrainians are currently in a defensive position) at least for safer movement to front-line positions. Ukraine maintained its leadership in innovation of war resources until the second half of 2023. The Ukrainian army also adheres to NATO standards, which encourage autonomous decision-making by units, from the company level upwards.

As an assault platform, motorcycles are generally seen as vulnerable and unreliable, rarely delivering decisive results. However, when used in the appropriate role – reconnaissance, fire support (forward artillery observers), support for electronic warfare teams, UAS/drones and armoured vehicles – they can be extremely effective. The challenge, of course, remains execution: Russian forces have struggled to coordinate such combined arms tactical actions even at the company-battalion level, limiting their ability to use motorcycles as effective force multipliers. While more manoeuvrable than traditional armoured tactical vehicles and more effective at evading artillery fire, motorcycles leave pilots exposed and vulnerable to artillery shell fragments. They also offer little protection against FPV drones, which often outrun motorcyclists. Ultimately, casualty rates remain a major concern. Feedback from the front reveals two consistent patterns:

- motorcycle assaults fail to deliver significant tactical results;
- tactical success comes at a high cost, with only one in several assault groups surviving to complete the mission.

This raises serious questions about whether such losses would be considered acceptable by commanders in Western armies. From time to time, the Russian Army's motorcycle assault tactics work – and help motorized infantry regiments advance the front line in eastern Ukraine about a kilometre or so to the west. There is a line of Ukrainian fortifications stretching from the fortress town of Pokrovsk to the ruins of Toretsk, 48 kilometres to the northeast. Capturing Pokrovsk – a major obstacle to Russia's wider advance into the Donetsk region — is likely the top priority. Two Russian armies, each with 10,000 or more soldiers, spent most of last year slowly marching toward Pokrovsk from the devastated town of Avdiivka, 40 kilometres to the southeast, but stalled a few kilometres outside Pokrovsk as Ukrainian resistance stiffened – and Ukrainian drones disrupted supply lines behind the advancing Russian armies. So now the Russians are trying to surround Pokrovsk rather than attack it directly. In recent days, Russian assault groups have stormed a Ukrainian trench line that runs along the T-0504 highway that connects Pokrovsk to

the town of Kostyantynivka, north of Toretsk. Crossing the trench line is a necessary first step if the Russians want to encircle Pokrovsk. At great cost, they are making some progress – and motorcycle assault groups are leading the way. Employing small reconnaissance groups, many of them on motorcycles, the Russians have run into stiff Ukrainian defences, executed by the 14th National Guard Brigade, the 38th Marine Infantry Brigade, and the 117th Mechanised Brigade. Attempting a larger assault on 17 April 2025, Russian forces lost 21 armoured vehicles and up to 240 soldiers (UWG, 2025).

The Ukrainian military has also embraced the Russian concept of Motorcycle Assault Groups. The 425th Assault Separate Regiment announced its first motorcycle assault unit in May 2024, after *"hundreds of hours"* of training, reporting its first successful mission – a night raid in the Kursk region. These developments do not reflect desperate improvisation on the part of either side, but rather a deliberate response to the rapidly evolving threat environment on the modern battlefield.

What is emerging is a new paradigm for *light cavalry* – faster, quieter, more modular, and better adapted to the fast-paced, electronic-engaged operational environment.

SUMMARY AND PERSPECTIVES

To recap, the Russian Army's Motorcycle Assault Groups are small, fast subunits that use off-road motorcycles for reconnaissance, security, and tactical-level attacks, primarily in military operations in Ukraine, to rapidly penetrate Ukrainian defences and evade (full) drone surveillance, despite the fact that these tactics are described by Ukraine as *"suicide attacks"*. These groups constitute a tactical response to the increased use of drones on the battlefield, providing a mobile platform for reconnaissance and rapid attacks. The deployment of these subunits is a strategic adaptation of the Russian Army to counter the ubiquitous threat of Ukrainian reconnaissance and attack drones.

Key features:

- *small and agile units* – typically consisting of about a dozen to several dozen soldiers;
- *mobility and speed* – off-road motorcycles allow for rapid movement over difficult terrain and rapid infiltration behind enemy lines.
- *allow for evasive tactics* – the speed and manoeuvrability of motorcycles help groups avoid detection and attack by Ukrainian drones.

Tactical role: *reconnaissance – surveillance, security, rapid penetration of enemy lines and small-scale attacks*.

In conclusion, infantry tactics using off-road motorcycles have earned their place and role on the battlefield, but they are unlikely to change the rules of the game on the scale that drones have achieved. However, their use is likely to intensify, in response to current battlefield dynamics. When properly coordinated with other assault elements, these assault groups can enhance operational success and serve as a force multiplier. However, the Russian Army continue to struggle with the synchronisation of combined arms operations at the tactical level, significantly limiting their effectiveness. Internal documents from the Russian Defence Ministry, currently unavailable for publication, suggest that off-road motorcycles, ATVs, and buggy-vehicles will be part of the standard equipment of assault units. These documents also indicate that more than half of the infantry units in some combat units will be equipped with such vehicles to increase mobility. If true, this signals a sustained focus by the Russian military on tactical mobility, a shift that NATO may have to contend with in the event of a direct conflict. As such, this evolving Russian approach deserves further analysis.

This new doctrinal vision, focused on mobility, does not make armour obsolete. Instead, it signifies a rebalancing of combined arms tactics. The most effective tactical actions now tend to combine drones, artillery, and mobile infantry in tightly coordinated attacks. As the Institute for the Study of War (ISW) has noted, the Russian military is *"systematically integrating"* Motorcycle Assault Groups into its planned offensive operations by 2025, as part of a broader shift in tactical thinking – a shift from massed mechanized formations to modular, flexible assault teams that can survive and operate under persistent UAS surveillance and attack (RUSI, 2025).

This development may hold important lessons for NATO and other Western armies. The Turkish military's 2020 *"Spring Shield"* operation in Syria should have provided an early warning – not least to Russian Army – when coordinated Turkish drone and artillery attacks decimated Syrian armoured units with devastating efficiency and resulted in at least 197 casualties. As military analysts Reynolds and Watling warned in a 2020 article ominously titled *"Your tanks can't hide*," survival in the modern battlespace requires layered defensive capabilities – including electronic warfare, radar warning, and short-range air defence (SHORAD) (RUSI, 2020).

Despite these early signals, Western doctrine has been slow to adapt. While defence doctrine reviews and strategic (national) analyses recognise the need for new anti-drone/anti-UAS capabilities and tactics, as well as improved electronic countermeasures, they remain ambiguous about how infantry and armoured units should operate in a drone/UAS-saturated environment. Some tests conducted by the British Army Parachute Regiment in 2021, with electric motorcycles such as

the *Sur-ron Firefly* model (already widely used in Ukraine today), offer compelling advantages in drone warfare: they are quieter and have lower thermal signatures, making them harder to detect *(photo 11)* (Motodeal, 2021).

Photo 11: Sur-ron Firefly electric motorcycle tested by the British Army (Ib.)

What is emerging is a new paradigm of *light cavalry* – faster, quieter, more modular, and adapted to fast-paced, electronically contested environments. Both Russian and Ukrainian armies are experimenting with and institutionalising these innovations, suggesting that the future of land warfare may belong not just to armoured units or infantry, but to hybrid, networked forces capable of intelligently manoeuvring under constant air threat. Finding the right balance – leveraging the speed and dispersion of light vehicles while maintaining firepower and armour protection – will be essential for survival and victory on the battlefield of the future.

For the Romanian Armed Forces, the implications are clear; the experience of Ukrainian forces, now operating in what is arguably the most technologically dense battlefield in modern history, should serve as a source of urgent tactical intelligence. Most likely, in the event of a potential conflict, the units of the Romanian Armed Forces would operate on the national territory in conditions of an operational environment almost similar to that of the Ukrainian army (geographical, climate, cultural, demographic, technological – *Eastern European Theatre of Operations*). Updating the doctrine, organisation, equipment and training/exercises to reflect this change will be essential if they are to remain operationally effective in future

conflicts. The standard equipment of at least 1/3 of the reconnaissance, FOS, infantry (light, medium, heavy), marine infantry, artillery data assurance, UAS/C-UAS subunits with off-road motorcycles becomes a necessity.

For the Romanian Naval Infantry and its reconnaissance small units, into the conditions of very large and complex area of responsibility (river, delta, lagoon and coastal / littoral), in addition to the AAV-7 amphibious assault vehicles and coastal patrol boats, motorcycles are essential in achieving mobility in the lagoon area (the inner land sector and on the lagoon sandy strip from Sf. Gheorghe to Vadu), on the delta sand islands and on the river banks – as follows:

- mobility of research-surveillance subunits (land and with UAS/drones) through patrol;
- counter-reconnaissance (neutralisation of enemy scouts and their systems that have penetrated the national territory);
- support for the installation / operation of information collection systems (land sensors/GSR, portable electronic warfare systems, etc.);
- mobility of forward artillery observer teams (land artillery and river naval artillery) or JTAC (forward tactical air control teams);
- mobility of marine infantry subunits for control of the banks and port areas.

Transportation of motorcycles during deployment (on the lake/river) in the border sectors would be carried out with light boats and river vessels, given the small dimensions of the motorcycles. Also, in the case of long-term tactical actions (3-7 days) in isolation conditions, fuel resupply (batteries in the case of electric motorcycles) would be easily achieved, using both military river boats on the standard logistics chain but also civilian boats or by parachuting / helicopter launch.

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