

#### **Original article**

# Selected problems of contemporary tactics of tank subunits

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INFORMATION	ABSTRACT
Article history:	The article addresses issues pertaining to the conduct of march, defence and
Submited: 10 January 2022	assault by a platoon and a company of tanks. It indicates areas of the current tactical regulations of the land forces requiring development in the field of tactics of tank subunits. Furthermore, the paper presents possible tactical procedures resulting from the analysis of contemporary conflicts, literature and experience of lecturers and subunit commanders.
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## Introduction

Today's tanks are equipped with state-of-the-art technology that enhances their firepower, survivability, mobility and the situational awareness of their crews. The equipment potential capability comparison (EPOCC), which the army uses to assess the potential of different equipment units, assigns one of the highest values to tanks. For example, the Leopard2PL, T-90AM tanks received numerical values of 7.27 and 7.76, respectively. In contrast, combat vehicles used by mechanised and motorised subunits of the BWP-1 and KTO ROSOMAK types received only values of 1.29 and 1.93 [1]. In military circles, tanks are described as the "most dangerous predator" in land forces. The history of armed conflicts and the ongoing war in Ukraine shows that in addition to the quality of the equipment, the combat training of the subunit also determines the winner. Tactics is considered to be one of the essential subjects of combat training of tankers and constitutes the main part of the training programme [2, p. 32]. The fundamental documents regulating the principles of tactical operations of tank subunits are Rules of Tactical Operations of Subunits of Armoured and Mechanised Forces (Platoon – Company – Battalion) [Regulamin działań taktycznych pododdziałów wojsk pancernych i zmechanizowanych (pluton – kompania – batalion)] [3] and Rules of Operations of Land Forces [Regulamin działań Wojsk Lgdowych] [4]. The content of the aforementioned regulations is used as a main source of knowledge during tactical training. This is confirmed by the author's long experience in handling the training documentation of tank subunits (work plans, handouts, presentations, drill documentation) and military education (training programmes, worksheets). A significant part of the content of the training documentation

in the literature sections cites the tactical regulations as the primary source – other materials are rarely indicated and if they do appear, they are varied. Therefore, the main research problem is reduced to the question: Do the applicable regulations have sufficient information for tactics training at the company/platoon tank level?

According to military analysts, the war in Ukraine illustrates the increasing relevance of the platoon and company levels. Subunit commanders are required to demonstrate professionalism in the use of expensive equipment and autonomy in their actions. The knowledge gained from the analysis of the literature and the training experience made it possible to specify the following hypotheses:

The rules of tactical operations do not provide sufficient information on how to conduct operations at a platoon or company level. It is reasonable to produce tactical documents or procedures detailing the implementation of activities related to marching, defending or attacking for tank subunits of the Polish Armed Forces.

In accordance with the aforementioned circumstances, the article aims to identify gaps in the tactical regulations and simultaneously provide examples of solutions in areas related to the defence, attack and march at a tank platoon or company level.

The tactical procedures and solutions presented in the publication are based on the training experience of subunit commanders, as well as the analysis of the literature and contemporary armed conflicts. Furthermore, in order to better understand the body of the article, the author refers to the following statement: "When dealing with tactical incidents at the platoon or company level, we are often confronted with a lack of logical action or a 'quick fix', which is mistakenly regarded as unconventionality. The unconventionality of the action stems from training, habits and the ability to adapt the procedure to the incident".

## 1. March

The rules of tactical operations define marching as an auxiliary activity. These documents contain guidelines concerning planning and organising marches. Marches were divided according to the direction of movement in relation to the enemy's position: from the front, towards the front and along the front. The regulations outline the rules to be followed to ensure the smooth direction of marching and rest of the subunits on the move. They also describe what elements the marching subunits should consist of and what tasks they should execute as a result. In the documents in question, the greatest attention was focused on the implementation of travelling overwatch and the behaviour of the overwatching subunit with regard to avoiding or responding to incidents involving weapons of mass destruction, means of an aerial attack, artillery and the enemy on the ground [3, p. 75-78].

According to the author, the content relating to marching presented in the regulations needs to be developed. It appears highly doubtful that the direction of movement in relation to a potential enemy is a fundamental determinant of the manner in which a platoon or company operates. Such an approach may be justified with regard to a subunit of at least battalion strength, which may establish an appropriate marching formation with respect to the general direction of the enemy's position; however, during the execution of movement, the formation itself should use appropriate marching techniques, as the enemy's actions may be of a local nature and come from different directions. According to manuals such as *LEO2A4 Tank Platoon Standard Operating Procedures [Standardowe procedury operacyjne plutonu czołgów LEO2A4*] and the US equivalent *ATP 3-20.15 MCRP 3-10B.1. Tank Platoon*, the

essential factor conditioning the method of platoon and company marching is the degree of likelihood of enemy contact. The marked marching route includes places and sections where the subunit can expect to encounter the opponent or where their attack is unlikely. The commander receives such data as a result of analysis of the information contained in the order from their superior as well as their own assessment of the terrain and the enemy forces. The determination of the extent of the possibility of enemy contact on particular sections of the march path should shape the manner of movement. Places where enemy strikes are to be expected require appropriate behaviour of the subunit, especially when carrying out tasks as the travelling overwatch (patrol, spearhead). According to the above-mentioned instructions, a tank subunit should advance using tactical movement techniques such as travelling, travelling overwatch and bounding overwatch; Figure 1 [5, p. 24-28].

The first type of tactical movement – travelling – applies when the possibility of enemy contact is unlikely and the speed of covering the marked path is important. In order to save tank subsystems from wear and tear, it is possible to switch off the power supply in the turret and carry out visual observation.

Another method of tactical movement is travelling overwatch. Based on this technique, the vehicles travel at appropriate distances (depending on terrain conditions) and keep watch in designated sectors, fire control systems are switched on and crews are on standby. This method is used when the risk of an opponent's attack exists and an appropriate rate of movement is desired (Fig. 2).

The bounding overwatch technique should be applied if there is a high probability of enemy interaction. One of the subunits occupies a convenient position from which it conducts observation (overwatch) and is on standby to support the other subunit manoeuvring (bounding) with firepower. The manoeuvring element takes advantage of the properties of the terrain to stealthily move to the next favourable position from where it carries out bounding overwatch. Bounding should be performed at a distance that ensures mutual observation and fire support. There are two types of bounding overwatch – successive and alternate. The successive bound occurs at the distance of the covering subunit (Fig. 3). In the alternate bounding



Fig. 1. The application of an appropriate type of tactical movement technique based on the potential encounter of the opponent *Source: Author's own elaboration.* 



**Fig. 2.** An example of travelling overwatch. A characteristic feature of this movement technique is the maintenance of designated sectors of observation by the individual vehicles in the marching column *Source: Author's own elaboration.* 

method, the manoeuvring element passes the positions of the covering element and takes up another convenient position while remaining within the observation and fire range of the covering element (Fig. 4). The bounding overwatch technique should be used particularly by a covering element, such as a patrol or a spearhead [6, p. 3-29-3-31].

Apart from tactical movement, whose proper execution on the battlefield reduces the possibility of being caught by surprise by the enemy, the subunit should apply procedures that will enable it to respond quickly and appropriately to an incident while marching. The most common incidents on the march include: direct fire, indirect fire (artillery strikes), air strikes, use of weapons of mass destruction, engineering barrages, travelling civilians. Information regarding the way in which a subunit should respond to the aforementioned incidents included in the tactical rules is brief and limited to an indication of the suggested end result without providing a path of "conduct" leading to its achievement [3, p. 79-83].

In the author's opinion, the instructions regarding incident response contained in the regulations should be separately developed in supplementary literature for tank subunits, mechanised subunits, etc. Procedures are a useful means of transferring experience between changing subunit commanders that also facilitate training. Figure 5 demonstrates the procedure applied by one of the tank battalions in the event of an encounter with an engineering barrage.

Furthermore, the sources analysed with regard to marching include procedures concerning activities that are omitted by the regulations. They may include the way of travelling across terrain that limits the possibility of observation (folds, tree line, buildings) (Fig. 5), actions in case of vehicle breakdown, tank abandonment or unplanned stops [5, p. 14-23].

At this point, it is necessary to answer the question of why tactical procedures are an important determinant of subunit training.



Fig. 3. Successive bounds technique Source: [6, p. 3-31].

Based on the author's experience, including thousands of hours of classes using virtual simulators and laser shooting systems (live simulation), the first reaction of a subunit during an incident results from learned habits (procedures). On the modern-day battlefield, "tactical incidents" are violent in nature, which is why it is important to react to them quickly and correctly. The conditions (time, space) for the commander to direct the fight are created after the initial and adequate response of the elements of the subunit.

It is possible to find numerous traces of the use of movement techniques and tactical procedures in contemporary conflicts. One of the examples is the "Thunder Run" operation, which took place in April 2003 during the Second Gulf War and its aim was to take over the Iraqi capital – Baghdad. Due to developments, initial plans to seize every street in the city were changed to a rapid raid by tank subunits to take control of the sensitive airport infrastructure and city centre. The rapid movement of tanks into the city centre was also intended to exert a psychological effect on the defenders. During the task, 30 M1 Abrams tanks together with medical (M113) and technical evacuation vehicles moved along the roads of Baghdad using the travelling overwatch technique, during which individual tanks engaged in fire and observation in a designated sector (Fig. 6). An analysis of available materials also indicates



Fig. 5. Example of a reduced visibility line (LOW) Source: Authors' own elaboration.

Table 1. Example of procedure to be followed by a patrolling subunit (LEO2A4 tank)
after encountering an engineering barrage on the march path

Step	Action
1.	The patrolling subunit reports the presence of an obstacle and its location, after which it executes one of three options:
	A. destroys the barrage and continues to march along the designated route,
	B. destroys the obstacle, retreats into hiding and waits for orders,
	C. refrains from opening fire and seeks a bypass route.
1.	<u>Terrain obstacles</u> should be destroyed with MZ ammunition. In the case of concrete obstacles, first KE and then MZ ammunition should be used in the same place.
	It is important to bear in mind that if an off-road obstacle is removed, there is no certainty that the road is passable.
2.	A group of mines:
	Post-detection procedure the same as in the case of an obstacle.
	In addition, there is a probable replacement of the patrolling subunit, as the tank platoon has no way of recognising a group of mines until the first vehicle drives onto it.
3.	Seeking a bypass route:
	- the patrolling subunit MUST NOT stand in front of an obstacle on the marching route!,
	<ul> <li>the patrolling subunit retreats to a place providing cover from the likely direction of en- emy fire – which shields the obstacle – simultaneously firing smoke grenades,</li> </ul>
	<ul> <li>the commander reports to the tank platoon commander about the encountered obsta- cle and its type,</li> </ul>
	<ul> <li>– conducts observation and analysis of the site,</li> </ul>
	- reports to the tank platoon commander on a proposal to bypass the engineering barrage.

Source: [5, p. 19].





Fig. 6. Example of a tactical movement – a travelling overwatch used during the attack on Baghdad Source: [7].

that the subunit crews carried out trained tactical procedures related to firing, evacuating and destroying damaged tanks as well as overcoming engineer barrages [7]. It should be emphasised that the adopted manner of movement (a variant of action) resulted from the conclusions reached by assessing factors such as terrain, the enemy, own troops and time. The lie of the land limited freedom of manoeuvre to the existing road network and the opponent was mostly armed with carbines and hand-held anti-tank grenade launchers. The use of the travelling overwatch technique was facilitated by the technical and tactical characteristics of the ABRAMS tank, such as high mobility, protection (active cover systems), firepower (modern fire control systems) and high situational awareness (battlefield management systems). The "Thunder Run" operation was a success, the tank subunit took over the city centre and the equipment losses boiled down to one tank.

The travelling overwatch technique was also employed by Canadian tank subunits during the 2006-2010 conflict in Afghanistan. In order to increase firepower, improve mobility, protection and deterrence, the Canadians reinforced their forces with tank subunits equipped with Leopard version 1 and 2A6 vehicles. One of their tasks consisted in protecting the movement of convoys (Fig. 7) [8].

The use of appropriate operating techniques by tank subunits is enforced by the conflict between Ukraine and Russia, which has been taking place since February 2022. The available sources indicate that the Russian marching columns have a problem with actions involving indirect (artillery) and direct (ambush) fire strikes. During the incidents in question, the Russian side shows chaotic or unresponsive behaviour leading to the breakdown of the columns. This is likely a result of a lack of proper tactical movement techniques and learned operating procedures/habits.

In the course of exercises with tank platoons from various land units of the Polish Army, the author, being the leader, required the use of tactical movement techniques by the subunit under training. The use of the VBS3 simulation system during the "tank platoon as a travelling overwatch" activity allowed initially verifying the effectiveness of the trainees. If there was



Fig. 7. Use of the travelling overwatch technique by a Canadian tank subunit equipped with Leopard 2A6 vehicles during a relocation in Afghanistan *Source: [8].* 



Fig. 8. Application of the bounding overwatch technique by a tank platoon during training with the use of the VBS 3 simulator Source: Author's own elaboration.

a high probability of enemy contact resulting from an order or information from a superior, the training subunit moved using the bounding overwatch technique. This strategy, suitably adapted to the terrain, has proved extremely effective. The moving platoon quickly detected and destroyed the enemy and the risk of losses decreased. Officers who use simulators such as VBS 3, AGPT<sup>1</sup> or laser systems (AGDUS<sup>2</sup>) to train tankers are of a similar opinion. According to a former tank company commander (Leopard 2A5) currently teaching tactics at the Military University of Land Forces, Cpt. Emil Kamiński "the so-called, bounding overwatch is a very effective way of moving when there is a high possibility of enemy interaction or under fire. It should be used especially by a subunit carrying out the task of a travelling overwatch, e.g. a platoon that is a frontline patrol".

In training documents, it is important to aim for records that reflect reality. A well-trained subunit is one that adequately and quickly responds to a threat. An essential element of the marching group is cover (overwatch) provided in particular by a patrol (platoon) and a spear-head (company). The aforementioned elements are the first to make contact with the enemy and their appropriate response to the threat will be a key factor in determining the success of the marching group (reinforced battalion) operation. Given the above, in terms of movement, the existing rules need to be expanded to include marching methods and operating procedures, particularly at platoon and company levels.

## 2. Attack

Attack is one of the basic tactical actions. The tactical regulations contain information on attack objectives, structures and grouping. They also describe the principles of offensive operations and divide them into types and forms of attack [3, p. 39-45]. In comparison with training experience and the literature on the subject, the analysis of the aforementioned content compels the author to subject the regulatory provisions to consideration.

<sup>&</sup>lt;sup>1</sup> Virtual Leopard 2 tank platoon simulator designed for training in tactics.

<sup>&</sup>lt;sup>2</sup> A laser shooting simulator designed for tactical combat duels between Leopard 2 tank subunits on real equipment and in the field.

The tactical regulations divide attacks into types (combat reconnaissance, raid, pre-emptive attack, rapid attack, planned attack) and forms (breach, pursuit) [3, p. 41]. According to a tactics lecturer at the Military University of Land Forces, Maj. Łukasz Machna, "the presented classification divides the attack based on its nature, while at the company/platoon level, the necessary breakdown should be made according to the manner in which the attack is executed". When analysing the available sources, it is possible to follow the division into three ways of conducting offensive actions for a tank subunit: attack by fire (ABF), support by fire (SBF) and manoeuvre [5, p. 51]. Furthermore, the Defence Standard NO-03-A001 Military Graphic Symbols of 2016, adopted by the decision of the Ministry of Defence, introduced, among other things, tactical task symbols for attack and support by fire. On the other hand, the Polish Armed Forces do not possess doctrinal documents explaining what these tactical tasks are.

A fire strike consists in occupying a convenient position from which a tank subdivision directs fire towards an object. This technique aims to use the firepower of the tank. The tank's fire potential is determined by the cannon, coupled machine guns and increasingly sophisticated fire control systems. The take-over of the attacked object is achieved by destroying the detected enemy at a distance, followed by the physical occupation of the area [5, p. 52].

Another attack technique is support by fire (SBF). It consists of seizing an area from where the subunit conducts fire to engage the enemy, allowing the manoeuvring element to take control of the object. The moving subunit uses the terrain to stealthy approach and strike. This technique requires the coordination of manoeuvre and fire in order to avoid the friendly fire [6, p. 3-17].

The third technique for performing an attack is the manoeuvre. In this way, efforts are made to avoid frontal manoeuvres. If the performed assessment of the terrain and the opponent allows, the aim is to flank. Using the appropriate manoeuvring allows the opponent's advantage to be negated. The manoeuvre often occurs in conjunction with support-by-fire (SBF) [6, p. 3-5, 3-6] (Fig. 9).

A very well-known example of the use of a fire strike to conquer an attack object is the so-called tank carousel. The technique is, in a sense, an eastern variant of the fire attack. One element of the grouping (platoon) occupies a convenient firing position from which it conducts high-frequency fire without focusing on accuracy. The second platoon remains in readiness for a change of a leader when the firing unit is consumed, while the last element is in the process of replenishing ammunition. Furthermore, there is a "sniper tank", which destroys the enemy with precision fire from a concealed position. The "tank carousel" tactics was used during the fighting in Ukraine and Syria. Its effectiveness is evidenced by the fact that, following the experience of the aforementioned conflicts, this technique has become an element of the training of the Russian Federation's tank subunits [9].

Another technique for conducting an attack using tank subunits, which is observed on today's battlefield is the so-called Syrian rampart. This technique is a combination of fire support and manoeuvre and was used during the fighting in Syria. In the description of one of the battles, the motorised infantry engaged the enemy in combat while a subunit of tanks manoeuvred to strike the enemy's flank, moving the fight deep into the enemy's defence [9].

It is difficult to obtain information on the operation of tank subunits in the ongoing conflict in Ukraine. From the example of Russian operations, it is known that tank subunits in the early stages of the war were designed for deep manoeuvres which, without adequate support from aviation, artillery and logistics subunits and infantry, resulted in their breakdown. In



Fig. 9. The attack plan of a tank company, showing three techniques of attack execution: manoeuvre, attack by fire (ABF) and support-by-fire (SBF) Source: [6, p. 2-8].

the later part of the war, the Russian party abandoned the manoeuvre nature of conducting the attack, probably due to the training and equipment of tank subunits. It appears that the tank subunits are carrying out a fire attack from occupied lines on recognised Ukrainian positions and a frontal manoeuvre, which involves heavy ammunition consumption and losses.

With regard to the conduct of the attack, the regulations need to be developed or amended in terms of how it is to be carried out. The attack technique should be adapted to the type of tanks the subunit has at its disposal. For example, ABF in the case of a subunit equipped with Leopard2 tanks can be performed precisely while simultaneously manoeuvring between fire positions on an occupied line, while in the case of T-72 tanks, the lower effectiveness of fire-control systems makes it necessary to increase the intensity of fire and develop this method with a sniper tank. Conducting an attack aimed at capturing an object through a flanking manoeuvre involves proper training, equipment and support for the advancing subunit.

## 3. Defence

Defence is classified as a basic tactical action. Analysing the tactical regulations or handbooks, defensive operations at the subunit (platoon/company) level are stationary, linear, frontal in nature with the use of engineering development [3, p. 21-25].

It should be noted that the equipment we have at our disposal, Leopard 2 tanks or the planned Abrams SEPv3 and South Korean K2 tanks, should be used in manoeuvre operations based on the tactical and technical data [10]. At the tactical level, it is not only the engine power that determines mobility but also the shield systems (armour, active shield systems) that enable movement ignoring the firing of part of the weapons [11]. In addition, the experience of conflicts fought on Polish territory due to the lowland terrain predisposed the army to manoeuvre defence. The history of the Polish military also shows the effectiveness of appropriate manoeuvring of (few units of) forces when conducting defence.

The manoeuvre use of tanks should be considered from the lowest level, which is the crew who actively manoeuvres the vehicle within the firing position, to the subunit which fights between phase lines (PL).

Analysing the available operational procedures for the conduct of defensive operations by a subunit, attention is paid to the use of terrain when manoeuvring between positions and how to occupy them. Firing positions should be taken shortly before combat. The firing and observation by the tank crew depends on the tactical situation and takes place at two levels. First level, "turret down" – observation carried out through the highest periscope sight (LEO2, Abrams and K2 tanks) or binoculars. The turret down position is used to hide the vehicle from enemy observation or after a shot has been fired. The second position, hull down, allows observation and fire by the commander and gunner. The hull down position minimises the size of the tank silhouette to the turret outline to reduce the risk of being hit. If this is not necessary, using the features of the terrain, the vehicles should remain in a concealed position and take up firing positions at the signal of covering elements. This approach is particularly necessary because of the possibility of attack by unmanned aerial vehicles [6, p. 4-33, 4-34] (Fig. 10).

The tank manoeuvres within the occupied position. For example, after firing in the hull down position, the crew moves to the turret down level to load the shell, then returns to the hull down position avoiding taking the same position as when firing the previous shot. The technique described above is referred to in the "west" as the "Y" position, while in Russian nomenclature, the term "tank trousers" can be found (Fig. 11).

When choosing firing positions, the terrain should be used first. An engineering development that requires a great deal of effort under conditions of active, manoeuvre defence can prove to be an effort out of proportion to the time it is used for. When analysing exercises, we are often confronted with the static nature of the operation on the firing position by the individual tanks of the subunit while firing. Experience with the use of laser shooting simulators mounted on the "AGDUS" type tanks shows that failure to change the tank's position after just 20 seconds during a firefight results in a hit from the enemy vehicle.

In addition to the manoeuvring of individual vehicles of subdivisions on the occupied area, it is important to be able to manoeuvre the entire subunit between individual phase lines (PL). Tank subunits should be used in defensive combat in a way that allows them to manoeuvre. The commander's ability to plan is important here. Correctly assessing the terrain factor is crucial in terms of developing appropriate variants of action for own troops. When manoeuvring tanks, particular attention should be paid to the stealthiness of movement between



Fig. 11. Type "Y" position, also known as "tank trousers" Source: [6, p. 4-34].

phase lines and the ability of the vehicles to operate from partially covered firing positions (hull/turret down). Such conditions are ensured even by small terrain folds running perpendicularly to the direction of combat (even 2/3 metre high folds that allow the silhouette of the equipment to be lowered are sufficient). Figure 12 shows a reinforced mechanised company with a platoon of tanks in defense. Using the terrain (location), the enemy was channelled on the left wing while on the right wing, the mechanised company commander using a tank platoon draws the enemy deeper into the defence in order to launch a counterattack with superior forces (another tank subunit) on the intruding enemy wing. The location was used to disguise a counter-attack on the exposed wing of an intruding enemy. It is worth noting that small terrain folds were used to manoeuvre the tank platoon on the right wing, where the forward edge of the battle area (FEBA) and individual phase lines (PL BLUE, YELLOW) were marked. It seems doubtful if not impossible to built engineering development in the form of trenches when tank subunits are conducting this type of operations. In addition, if building such a development was possible on individual lines it would reveal the course of the battle<sup>3</sup>.



Fig. 12. The use of a tank platoon in a mechanised company to draw in the enemy and execute a strike on their wing Source: Authors' own elaboration.

The above discussion on the defence of tank subunits should be compared to the struggle in Ukraine. From the few available sources on the fighting of armoured subunits, it is possible to formulate a few observations based on the example of the actions of Ukrainian troops. Tanks are essential for launching counterattacks and conducting manoeuvre defence. Vehicles remain hidden (hide position) until the start of the battle; observation is carried out through binoculars (no periscope sights). Crews take up positions using the camouflage properties of the terrain, changing position after firing 1-2 times. While there is movement at the lowest level, there are reports that at higher levels (battalion, brigade), Ukrainian troops are not trained to conduct manoeuvre defence, which may result in losses of equipment and soldiers.

<sup>&</sup>lt;sup>3</sup> Based on the tactical scenario used during the classes involving the VBS 3 simulator.

The creator of armoured troops, H. Guderian, said that "the engine is a weapon". Tank subunits should, in defence, be used to perform rapid manoeuvres that change the focus of operations leading to resolution. The execution of manoeuvres should be closely linked to the terrain allowing stealthy movement and giving cover when fighting a ground enemy.

### Conclusions

Often in military circles we might hear the expression that tactics at platoon/company level come down to firing. It could be said that such thinking may be due to the remnants of training in the compulsory military service system, the style of command adopted or the lack of documents supplementing the tactical regulations in force. Examples of recent conflicts show that armies are no longer so numerous and subunits of company and platoon size are becoming increasingly important. There are apparent deficiencies in procedures at subunit levels for marching, conducting defence and attack activities<sup>4</sup>.

It is likely that the result of the above is a very conservative tactic characterised by an often stationary approach (no manoeuvre use of vehicles during combat), little autonomy for fireteam and platoon commanders and a slow response to tactical "incidents" that occur.

According to the author, supplementary documents to the existing tactical operations regulations should be implemented. They should standardise the operating procedures of tank subunits, impose a manoeuvrable and autonomous nature of combat. Attention should be paid during tactics classes to the consideration by commanders in planning operations of findings from terrain and enemy assessments.

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#### **Conflict of interests**

The author declared no conflict of interests.

#### Author contributions

The author contributed to the interpretation of results and writing of the paper. The author read and approved the final manuscript.

#### **Ethical statement**

The research complies with all national and international ethical requirements.

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<sup>&</sup>lt;sup>4</sup> The author's experience from courses conducted with tank, mechanised and motorised platoons (from various units of the Armed Forces of the Republic of Poland) using the VBS 3 simulator.

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#### **Biographical note**

Adam Kunz – MA, graduate of the Military University of Land Forces in Wrocław and the Wrocław University of Science and Technology, with a degree in Management. In 2020, he completed postgraduate studies at the General Tadeusz Kościuszko Military University of Land Forces in Wrocław in the field of "Crisis management in the state security system". From 2010 to 2017, he commanded the Leopard 2A4 tank subunit and was staff officer of a tank battalion. He is also certified as a Leopard 2 tank simulator instructor. Currently an assistant at the Military University of Land Forces. Author of publications on the development of armoured weapons and the training of tank subunits.

	Wybrane problemy współczesnej taktyki pododdziałów czołgów
STRESZCZENIE	W artykule poruszono problematykę związaną z prowadzeniem marszu, obrony i na- tarcia przez pluton oraz kompanię czołgów. Wskazano obszary w obowiązujących re- gulaminach taktycznych Wojsk Lądowych wymagających rozwinięcia w zakresie taktyki pododdziałów czołgów. Przedstawiono możliwe do zastosowania procedury taktyczne wynikające z analizy współczesnych konfliktów, literatury i doświadczeń wykładowców oraz dowódców pododdziałów.

SŁOWA KLUCZOWE taktyka, czołgi, procedury

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