



ISSN: 2544-7122 (print), 2545-0719 (online) 2019, Volume 51, Number 3(193), Pages 397-416

DOI: 10.5604/01.3001.0013.4999

Original article

Fighting vehicles in Polish military contingents in Syria and former Yugoslavia in the years 1992-2016

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INFORMATIONS

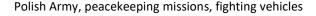
Article history:

Submited: 02 December 2018 Accepted: 17 June 2019 Published: 16 September 2019

ABSTRACT

The article presents the analysis of the use of military vehicles in Polish military contingents fulfilling their mandated tasks in the Middle East and former Yugoslavia. It encompasses the nature of operations conducted in these places and the resulting role of the vehicles used there. It also describes the history of their making and development, basic technical data and opinions about their use during the said tasks. The analysis comprised the following vehicles: Finnish Sisu XA-180, which is the prototype of KTO Rosomak and RG-31 Nyala vehicles originating from the Republic of South Africa and used by Polish military forces in the UNDOF mission. The group of machines which were part of the equipment used by contingents in missions in former Yugoslavia is represented by: Honker Tarpan off-road vehicle, AMZ Dzik-2 armoured vehicle, BRDM-2 reconnaissance patrol vehicle and BWP-1 infantry fighting vehicle.

KEYWORDS





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Introduction

Polish soldiers started participating in peacekeeping operations as early as 1953 and since then have served peace, first in international conciliation commissions and later since 1973 also in UN peacekeeping missions, in logistics units [See: 1, pp. 90-110]. A fundamental change took place in 1992 when the Polish Army sent operation battalions (POLBATT) in UN forces for the first time. The first of them in 1992 joined the forces of the UNPROFOR/UNCRO mission in Croatia and another one joined the UNDOF mission in the Golan Heights a year and a half later. These were also the first units to be equipped with fighting vehicles¹. They used Finnish Sisu XA-180 armoured

¹The Military Encyclopaedia from 2007 gives the following definition of a fighting vehicle: a general term used to denote an armoured vehicle to be used in independent fighting, support for military operations or military command; they were used even in ancient times; nowadays the term encompasses: infantry fighting vehicle, tank, self-propelled gun, armoured personnel carriers, mobile launch-

personnel carriers and RG-31 Nyala personnel carriers made in the Republic of South Africa in the UNDOF mission. Polish contingents performing their mandated tasks in the area of former Yugoslavia were equipped with AMZ Dzik-2 armoured vehicles, BRDM-2 reconnaissance patrol vehicles and BWP-1 infantry fighting vehicles and Honker Tarpan off-road vehicles.

1. Fighting vehicles in the Polish UN contingent in the Golan Hights in Syria

The area where Polish contingents performed their mandated tasks the longest was the area of the Golan Heights in Syria. From 1974 there was POLLOG and later, after its decommissioning, an operating unit called POLBATT was established there on December 8, 1993 and officially took over the duties of the Finnish operating battalion in the buffer zone separating Syrian forces from the Israeli ones. The units were responsible for:

- protection of civilians and UN staff,
- patrols of the determined buffer zone,
- separation of Israeli and Syrian forces,
- maintaining checkpoints [2, p. 77].

The patrols of the zone were conducted using, among others, fighting vehicles. It is interesting that these were five Sisu XA-180 machines, wheeled armoured personnel carriers taken over from the Finnish units. The prototype of these vehicles was made in 1982. In the machine a significant part of the components of Sisu SA-150VK truck were used. On December 22, 1983 the government in Helsinki decided that this model was the winner of the completion for an armoured personnel carrier to be used by its army². Since then Sisu XA-180 became the basis of the Finnish land forces armament. It was a three-axle 4×4 motor vehicle. The interior was functional, which was confirmed by the number of soldiers in the landing troop, which was 10 and additionally 2-3 in the crew. In the vehicle a simple suspension was used with leaf springs³. The basis tactical and technical data of the Sisu XA-180 armoured reconnaissance vehicle: kerb weight 12,500 kg, combat weight 16,000 kg, armour: 12.7 mm wkm DSzKM or NSW ma-

er platforms, etc. Modern fighting vehicles can be adapted to move off-road, for air transport, to overcome water obstacles, act in the night and in practically any atmospheric conditions; frequently they are equipped with internal and external communication devices, day and night observation and targeting devices, firefighting and filer-ventilation equipment. See: *Encyklopedia wojskowa*. Vol. 2. Warszawa: Wydawnictwo Naukowe PWN, Bellona; 2007, p. 524-5.

² The prerequisites of the vehicle were formulated in 1979 and sent to four companies: Lokomo in the Rauma-Repola Group, Sisu-Auto, Tourula Valmet and Vammaskoski. After analysing the offers in 1980, the army indicated two prototypes which were assigned for comparative tests: three-axle Sisu Pasi and Valmet 1912. Tests were conducted in the years 1981-1983 and as a result Sisu was selected. The manufacturer of Sisu XA-180 was Oy Sisu-Auto Ab (1983-1997), later called Patria Vehicles Oy (1997-2005).

³ Until 1994 about 400 XA-180 personnel carriers and their special versions were made. XA-180 was purchased by the following armies: Swedish, Norwegian and Irish. During UN missions they were used by Austria, Ghana and Poland. See: I. Witkowski. *Lekkie i srednie opancerzone wozy bojowe*. Wydawnictwo WIS: Warszawa; 1993, p. 39.

chine guns; drive: diesel engine 173 kW (236 HP). Performance: speed 95-100 km/h; range 900 km [3].

When in 1993 Poles took over the area which was previously the responsibility of the Finnish forces, the commander of the 2nd POLBATT company was captain Maciej Zimny. For him it was the first opportunity to use such vehicles. After many years he still recalls some of their features: very powerful motor, spacious interior, ease of use. If necessary, it was possible to drive even at 130 km/h, i.e. much faster than the speed specified in the manual. Sisu XA-180 looked similar to Polish-Czechoslovakian wheeled armoured personnel carriers SKOT, however, thish would be the only analogy according to this officer. The Finnish vehicle quickly became the workhorses of the Polish contingent, they were frequently used in patrols, the spacious hull of this vehicle allowed to unfold a stretcher for a wounded or ill soldier. Although it was usually used off-road in a difficult terrain, the Finnish personnel carrier never soldiers down [4].



Fig. 1. Interior of armoured personnel carrier Sisu XA-180. "Scorpion" Company, POLBATT, August 1994 *Source: Photo from T. Bak's archives.*

Five Sisu XA-180 vehicles were exploited by two POLBATT UNDOF companies until October 2009, i.e. the year when Polish contingents completed their service under the UN flag. After SKOT personnel carriers were withdrawn from land forces equipment, which took place in the nineties when KTO Rosomak was introduced, they were practically the only modern wheeled personnel carriers used by Polish soldiers. It should be noted, however, that Poland did not buy Sisu XA-180, a symbolic number of these vehicles was lent to our forces, in addition to this they were used outside Poland⁴.

⁴ It should be noted that Sisu XA-180 is the predecessor of Polish KTO Rosomak.

The Polish contingent was also equipped with mulita-purpose infantry mobility vehicles RG-31 Nyala made in the Republic of South Africa by Land Systems OMC which belonged to BAE Systems. The vehicles were bought by the UN as multi-purpose vehicles to be used in stabilisation missions. They have welded armour monocoque hull which is V-shaped at the bottom. Such a constructions allows a blast wave to propagate if a mine explodes under a vehicle. It wide back door and eight roof hatches made it possible for landing soldiers to leave the vehicle very quickly. Ergonomic construction and efficient air-conditioning were additional advantages for users. In the Golan Heights the vehicles were used until 2006 and later they were handed over to the UNIFIL mission in Lebanon [5, p. 183]. The basic tactical and technical data of RG-31 Nyala armoured infantry mobility vehicle: 10-people crew, weight: 7,280 kg, drive: (Daimler-Benz OM 352A version) 90.5 kW (123 HP). Performance: speed 100 km/h, range 900 km [3]. The described vehicles were used by the Polish contingent in the Golan Heights, however, they were never used by military units in Poland as they belonged to UNDOF.



Fig. 2. Armoured personnel carrier RG-31 Nyala used during UNDOF mission. One can clearly see open top hatches with landing forces soldiers *Source:* [6].

2. Fighting vehicles in Polish contingents in former Yugoslavia

Let us go back in time to April 21, 1992 when the Polish battalion of the United Nations Protection Force – UNPROFOR started to perform its mandated task in Croatia, in areas inhabited by a Serbian minority which created republics not recognized by other countries⁵. After three years the operation was completed, however, it was unsuccessful

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⁵ Most of the Polish checkpoints were deployed in the self-proclaimed Republic of Serbian Krajina. For more information on the UNPROFOR mission see: G. Ciechanowski. *Operacje pokojowe ONZ w XX wie-ku*. Torun: Wydawnictwo Adam Marszalek; 2013, p. 255-63.

and the UNPROFOR forces were disbanded and, among others, the UNCRO mission was created (United Nations Confidence Restoration Operation). POLBATT continued its mission in the new structures. Its role in both missions encompassed such tasks as:

- 24-hour observation of determined responsibility regions,
- road patrols,
- escorting convoys with refugees and humanitarian aid⁶.



Fig. 3. BRDM-2 used by the Polish contingent, the vehicle was damaged as a result of mine explosion, however, only one soldier was wounded, UNPROFOR mission, Croatia *Source:* [7].

The core of the battalion were six (initially five) infantry companies. The unit was dislocated in Slunj in the Northern Sector where troops serving 26 checkpoints were stationed (as a result of the worsening situation this number was raised to 42). At each

⁶ Numerous publication related to the service of Polish contingents in UNPROFOR have been published in Poland, e.g. G. Ciechanowski. *Polskie Kontyngenty Wojskowe w operacjach pokojowych 1990-1999*. Torun: Wydawnictwo Adam Marszalek; 2010, p. 213-30; D. Kozerawski. *Kontyngenty Wojska Polskiego w miedzynarodowych operacjach pokojowych w latach 1973-1999. Konflikty – interwencje – bezpieczenstwo*. Torun: Wydawnictwo Adam Marszalek; 2012, p. 213; J. Kempara. *Poczucie wiezi*. In: *Weteranom szacunek i wsparcie*. Warszawa; 2014; p. 80-3.

checkpoint there were a few soldiers and BRDM-2 armoured reconnaissance patrol vehicle⁷.

It was the first type of a fighting vehicle which was used by units serving in UN missions. This armoured reconnaissance vehicle was constructed in Soviet Russia and was accepted as part of army armament to be later mass produced in the USSR in the mid 60's of the 20th century. It became part of the Polish Army armament a few years later. It had a powerful motor located in the back part of the hull, as a result the fighting and landing compartment was located in the middle part⁸. There was a revolving cupola mounted on top with a KPWT 14.5 mm heavy machine gun (HMG) coupled with a PKT 7.62 mm machine gun (MG). Its relatively spacious hull allowed to equip the vehicle with numerous additional devices. In the crew there were 5 people: commander, driver, KPWT machine gunner and two recon soldiers [8]. The basic tactical and technical data of the armoured reconnaissance vehicle BRDM-2 (base model) are as follows: weight: 6.6 t (when fully laden 7 t); crew 5 people; armour – 1 KPWT 14.5 mm heavy machine gun coupled with a PKT 7.62 mm machine gun in the rotating cupola; drive: combustion engine 103 kW (140 HP) at 3200 rpm, cooled with a coolant fluid. Performance: road maximum speed 95-100 km/h, road range 750 km [8].

BRDM-2 was a successful structure, hence it career in the Polish Army (and many other armies) has lasted several decades until now. The vehicle were used also in the Polish battalion which started to serve in IFOR (Implementation Force) in December 1995 under the NATO command in the peace implementation force in Bosnia and Hercegovina. It was established to replace the so far ineffective UN missions in the area of former Yugoslavia. In December 1995 the North Atlantic Treaty introduce multinational Implementation Forces – IFOR, to Bosnia, which after one year of service were replaced by Stabilisation Forces – SFOR. Poland being a member of the Partnership for Peace programme – PfP, sent one operating battalion. The task was entrusted to the 16th Anti-landing Battalion (16. alb), 6th Landing-Assault Brigade (6. LAB). It joined the multinational Nordic-Polish Brigade NORDPOLBDE which was a part of the Multinational Division North – MND-N. The Polish contingent was responsible for:

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⁷ The mandate of the UNPROFOR/UNCRO mission categorically forbade any military intervention of mission troops, they could only separate fighting forces. This passive attitude was one of the factors which made it impossible to stop fights between the Croatian forces and Serbian separatists, and contributed to the failure of the UN mission in Croatia. The mandate of UNPROFOR forces was regulated by the Security Council Resolution No. 743 (1992), see: *UN Security Council Resolution S/RES/743, 21 February 1992*. New York: UN Department of Public Information; 1992, p. 8-9.

⁸ BRDM-2 was also discussed by, e.g.: J. Magnuski. *Opancerzony samochod rozpoznawczy BRDM*. Warszawa: Wydawnictwo Ministerstwa Obrony Narodowej; 1975, p. 11; R. Wozniak, P. Kupidura. *BRDM-2*. Mysl Wojskowa, 2005;6:254-6.

⁹ The establishment of this new force, called peace implementation force, resulted from the pressure on the international diplomacy arena, mainly the USA, directed to the leaders of Croatia, The Federal Republic of Yugoslavia and Bosnian Muslims. First the General Framework Agreement for Peace in Bosnia and Herzegovina (the so called Dayton Peace Agreement) was initiated on November 21, 1995 in Dayton and later signed on December 14, 1995 in Paris. For more information on IFOR see, e.g. the official NATO website: https://www.nato.int/ifor/ifor.htm.

- election protection in 1996,
- ensuring the security of inhabitants and soldiers of the international forces,
- demilitarisation of the area of their responsibility,
- ensuring staff for checkpoints and control points,
- protection of humanitarian aid [See more: 9, p. 247-63].

In 1995 the Polish Battalion serving in NORDPOLBDE was composed of, among others, command, assault company with 10 infantry fighting vehicles BWP-1 and two assault companies with 42 BRDM-2 vehicles, some of them were a more modern version of this vehicle – BRDM-2M96, which is discussed below¹⁰.

With time there were some changes and in the new configuration the first platoon in each company had four tracked infantry fighting vehicles BWP-1. The others were equipped with armoured reconnaissance vehicles BRDM-2 and Honker Tarpan 4×4 vehicles. As a result the first platoons usually played the role of Quick Reaction Forces – QRF, they were also used for power demonstrations [10, p. 15].

In the meantime BRDM-2 vehicles were considerably modernised in Poland (and simultaneously although independently also in a few other countries where they were used). In 1995 the first prototype made in Wojskowe Zaklady Mechaniczne (Military Mechanical Works) in Siemianowice Slaskie (WZMS) was changed by removing two pairs of additional middle wheels which were helpful when the vehicle had to cross ditches. However, this did not particularly alter the traction properties of this vehicle, which was now labelled as BRDM-2M96, the advantage of this change was a significant increase in the size of the interior. Doors were added on vehicle sides, which allowed to leave it quickly, evacuated the wounded and hence it increased the security of the crew which before these changes could only use hatches in the hull ceiling and so was more exposed to possible gunfire. At the back of the hull a special holder for a spare wheel was installed [11]. The subsequent variant – BRDM-2M96i obtained a new drive unit. The previously combustion engine GAZ-40 was replaced with IVECO Aifo 8040SRC diesel engine, 125 kW (165 HP) with direct injection and turbocharging. As a result of the above mentioned changes the new version of the vehicle was more economical and resistant to gunfire. The first order for seven such modernised vehicles was made by the National Defence Ministry in 1997.

This was the first and the only time when a Polish unit serving in a foreign mission used a tracked infantry vehicle BWP-1, this is why it is worth devoting more attention to this construction. The vehicle known around the world as BMP-1 was introduced to armament in 1966 and the Polish Army started to use their first BWP-1 vehicles (this was the name used in Poland) in 1973¹¹. Basic tactical and technical data of BWP-1: weight

¹⁰ POLBATT in IFOR/SFOR stationed in three places: Teslic (battalion staff, company command, company procurement, platoons: communications, bomb-squad and medical; Zepca (1st assault company) and Jelah (2nd and 3rd assault company and repair platoon).

¹¹ Interesting article on the use of BWP-1 in the Polish Army: M. Pietrzak. Wnioski z eksploatacji bojowego wozu piechoty. Przeglad Sil Zbrojnych, 2015;3:80-9, J. Kajetanowicz. Bojowe wozy piechoty. Warszawa: Bellona; 1995, p. 154.

– 12,500 kg; combat weight – 13,500 kg; armour: 2A28 Grom 73 mm smooth-bore gun coupled with PKT 7.62 mm km, PPK Malutka launcher; drive: engine 221 kW (300 HP). Performance: road maximum speed 65 km/h, road range 500 km [3].



Fig. 4. BRDM-2M96 used by SFOR (Bosnia). The introduced modifications, including side doors and a spare wheel on a holder at the back of the hull, can be clearly seen *Source:* [12].

What is important for further considerations is the fact that these vehicles were not a part of the 16th Anti-landing Battalion's equipment (alb) which was the basis for the decision made in December 1995 to send this battalion to join IFOR. After the Polish battalion started its operation with IFOR, there were several accidents caused by BRDM-2 and BWP-1 drivers. A few times they rammed cars, destroyed fences and buildings. In March 1996 in Teslic in one of such accidents a horse was killed when a vehicle driven by a Polish driver a cart the horse was harnessed to [13]. This situation was influenced by some decisions made during the formation of the contingent. At that time the finding BWP-1 and BRDM-2 drivers proved to be a challenging issue. It should be remembered that these vehicles were not part of the equipment used by the 6th Landing-Assault Brigade. Finally parachuters from the 16th alb were sent to complete quick courses although there were other possibilities of solving this problem. The soldiers who were willing to join the IFOR mission were drivers, soldiers doing contractual military service from other military units, e.g. UNPROFOR mission veterans who knew climatic and road conditions in the Balkans. However, this was decisively against the will of the then command of the 16th alb [9, p. 262].

It is also worth noting that Bosnia is a mountainous country with winding steep slope roads, there are also high 24-hour temperature changes leading to situations when one side of road surface is dry while on the other there is snow and ice, etc. At the time traffic was quite heavy and local drivers drove recklessly, frequently exceeded speed limits, did not use lights or indicators. So the beginnings of the exploitation of these vehicle were rather dramatic.



Fig. 5. The crew of BWP-1 from 16 alb in IFOR mission, Bosnia, 1996 *Source:* [14].

In the subsequent years the situation in Bosnia was more and more stabilised, which allowed to reduce the extensive military power represented by SFOR. This process encompassed also the Nordic-Polish Brigade whose potential was reduced and on January 5, 2000 it was transformed into Nordic-Polish Battle Group (NPBG). In mid-February 2000 the discussed changes encompassed also fighting vehicles which were sent back to Poland [10, p. 101]. So the mission in Bosnia was the only time they were used by Polish contingents on foreign missions. On December 2, 2004 the mandate of SFOR operation conducted by NATO expired. The task of stabilising situation in this multinational and multicultural country was taken over by the European Union forces as part of the EUFOR Althea operation. Existing units were reduced one more time and multinational brigades were renamed to be called now task forces. The Polish contingent was also reduced and its skeleton was now a manoeuver company transferred to Camp Eagle Base in Tuzla [15, p. 25]. Apart from two assault platoons formed on the basis of the 6th Landing-Assault from Gliwice (6. lab), there was also the third platoon formed on the basis of the Special Unit of Military Gendarmerie (MG) from Minsk Mazowiecki. In the fourth shift of the contingent, i.e. from July 2006, the gendarmerie was replaced by commandos from Gliwice and by the decision of the General Staff of the Polish Armed Forces, they took over the responsibility for the mission in Bosnia and Hercegovina [16]. Each of these three MG assault platoons had one intervention vehicle, it was the lightly armoured AMZ Dzik-2 Gucio (the name was given to commemorate Col. Waldemar Gutt who was the head of the commission determining the requirements for a new vehicle for MG)¹².

At the beginning of the 21st century the new vehicles – Dzik, made by a private enterprise AMZ Kutno S.A. offering a low price for them, won a tender offer in which four more companies competed with their intervention-patrol vehicles for the police. Again the choice of the product in this procedure was dictated by the lowest price, which usually influenced the very poor quality of products. In this case the rule also proved to be completely right.



Fig. 6. AMZ Dzik-2 used by Military Gendarmerie in service during Enduring Freedom Operation

Source: Photo from AMZ's archives.

The family of Dzik vehicles was made on the undercarriage of SCAM S55, an Italian 4×4 vehicle. In 2004 Dzik-AT (anti-terrorist) vehicles became a part of police equipment and they replaced wheeled personnel carriers BTR-60 made in Soviet Russia. Meanwhile AMZ continued to work on another prototype. The said vehicle was defined as Lightly Armoured Intervention Vehicle (LAIV) Dzik-2 Gucio and in June 2005 it became a part of the equipment used by the Military Gendarmerie and in this way these vehicles were used by the Polish military contingent in Bosnia.

Each platoon in MG had four 4×4 Land-Rover Devender 110 cars which were used as patrol and reconnaissance vehicles. See: D. Wisniewski. Szkolenie kompanii manewrowej EUFOR w Sarajewie, [online]. Website: wojsko.polskie.pl. Available at: http://www.wojsko-polskie.pl/pl/misje-zagraniczne/polskie-kontyngenty-wojskowe/misja-pokojowa-eufor-w-bosni-i-hercegowinie/10237 [Accessed: 29 December 2015].

Dzik-2 could take 6-8 people, had 5 doors which allowed soldiers to leave the vehicle relatively quickly, in the hull there were 8 embrasures and in the ceiling was a machine gun turntable. This armament which was a fixed part of the vehicle qualifies it as a fighting vehicle in accordance with the earlier quoted definition. The basic tactical and technical data of armoured vehicle Dzik-2: weight 5,500-6,200 kg; armour: 7.62 mm km PK/PKS, or alternatively 12.7 mm wkm NSW; drive: engine 107 kW (146 HP). Performance: maximum speed 100 km/h, road range 800 km [17, p. 29].

Very soon quite numerous faults of Dzik became apparent, including unsatisfactory mobility due to insufficient engine power for vehicle weight. Its splendid looking armour was not resistant to larger calibre shells, undercarriage was not strong enough, embrasures did not allow for precise firing or careful terrain observation [15, p. 43]. In June 2014, after a relatively short – not even 10 years long usage of the vehicle, the Military Gendarmerie decided to withdraw this vehicle from use and handed over all 43 such vehicles it still possessed to the Military Property Agency (MPA)¹³.

To prevent further bloodshed in Kosovo, a part of the Federal Republic of Yugoslavia, on June 9, 1999 the American diplomacy forced all sides of this conflict to sign a peace settlement agreement. The paramilitaries from the Kosovo Liberation Army – UCK [alb. Ushtria Clirimtare e Kosoves] were disarmed and the regular Yugoslavian units withdrew from this province. These formations were replaced by the NATO-led International Peacekeeping Forces in Kosovo – KFOR [Kosovo Force]. Poland also participated in this mission as three months earlier it had become a member state of the North Atlantic Treaty Organisation and so it sent one operational battalion. In June 1999 the 18th Bielsko-Biala Landing-Assault Battalion (18 lsb) was sent to Kosovo to the region of Kosovo-Macedonian border. Its responsibilities encompassed:

- protection of civilians and international forces,
- demilitarisation of the controlled region,
- border patrols and maintaining border checkpoints,
- support for humanitarian aid [9, p. 271-8].

The equipment of the Polish unit encompassed also fighting vehicles, namely the previously mentioned BRDM-2. It is worth emphasising that the vehicles were a part of, e.g. manoeuver companies in the Polish-Ukrainian Peace Force Battalion POLUKRBATT which in the years 2000-2010 participated in KFOR operations¹⁴.

¹³ In 2015 MPA put up for sale 6 Dzik-2 vehicles (out of 43 handed over by the army) informing potential buyers, however, about existing faults, e.g.: faulty seatbelts, automatic inactivation of ABS, cracked vehicle frames, broken stabiliser bolts, firefighting system faults, breaking windscreen wipers, etc. See: J. Cwieluch. *Dziki interes*. Polityka. 2015;36:30-1.

¹⁴ In July 2000 POLUKRBATT started its service in the southern responsibility zone controlled by the Multinational Brigade East which earlier included also POLBATT. In 2005 it was renamed and now called Multinational Task Force East. Later these forces were reorganized a few times more, however, a small Polish KFOR contingent exists until today.



Fig. 7. BRDM-2M96 used by KFOR (Kosovo). An element attracting attention is the open side door *Source:* [18].

3. Tarpan Honker – military career

In the 80's of the 20th century the armament of the Armed Forces of the Republic of Poland was supplemented with the first vehicles of a newly constructed Tarpan Honker made in Poland. In 1992 these unarmed vehicles became a part of the equipment of the Polish contingent on UNPROFOR mission, and later a few of their versions were used in all Polish operational units performing their mandated tasks on UN and NATO missions in the former Yugoslavia area. In 2003 they also formed a part of the equipment used by the Polish military contingent in Iraq. Then they were armed with 7.62 PK machine guns and hence became fighting vehicles in accordance with the definition quoted at the beginning of this article.

This subjects exceeds the geographical framework of this article, however, it is worth analysing the long and difficult history of the birth of Tarpan Honker. For this purpose one has to go back to the end of the 60's of the 20th century. Then the political authorities decided to construct a vehicle for agriculture needs. Soon in two Poznan centres two different types of prototypes of such vehicles were made. The first one was called Warta and the other one Tarpan.



Fig. 8. Prototype of Warta vehicle made by the Technical Vehicle Service in Poznan *Source:* [19].



Fig. 9. Prototype of Tarpan vehicle made by Plastic Processing Institute in Poznan *Source:* [19].

When both vehicles were tested, a special team headed by Roman Skwarek was created¹⁵. This new team of constructors decided to discontinue work on the initial Warta and Tarpan models and decided to design a completely new model. The new prototype was equipped with M20 motor used in Zuk and Warszawa. Two Warta-2 vehicles were made at the time and they did not differ much from each other. Both were presented at the Exposition of Bydgoszcz Agriculture in September 1972, it was organised as part

¹⁵ Roman Skwarek (1919-2013) MSc Eng., mechanic, for many years the chief constructor of the Truck Manufacturer (Fabryka Samochodow Ciezarowych) in Lublin and Car Manufacturer (Fabryka Samochodow Osobowych) in Zeran, member of the Main Council of Car Technology and Traffic Experts PZM.

of the celebration of all-Poland harvest festival. Then the authorities decided on the mass production of this vehicle in Wielkopolskie Zaklady Napraw Samochodowych (WZNS) in Poznan-Antoninek¹⁶. In December 1972 the first trial series of 25 pieces of Tarpan 233 was ready. The series production started in 1973.



Fig. 10. Tarpan 233, 1972 model *Source:* [20].

At the same time WZNS was merged with the Truck Manufacturer in Lublin and now it was called Agricultural Vehicles Manufacturer. The exploitation tests of the first Tarpan models and also the technological requirements indicated that there was a necessity to make a number of changes on the construction of this vehicle. In 1973 250 Tarpan vehicles were made, and only a year later as many as 1582. In the vehicles M-20 or S-21 motor types were used (51.5 kW). The production was growing as there was a continuous demand for these vehicles. In 1975 2760 Tarpans left the factory and in the years that followed this number kept growing to 6011 pieces in 1980 [19].

The success of this project resulted in the fact that on July 1, 1975 Tarpan manufacturer, Wielkopolskie Zaklady Napraw Samochodowych (Wielkopolska Vehicle repair Works), became independent and started to function as Fabryka Samochodow Rolniczych "Polmo" (FSR) (Agricultural Vehicles Manufacturer) in Poznan. The plant was developed and a few companied cooperating with it were merged, e.g. from Gniezno, Swarzedz and Zlotow [21, p. 24]. The construction and design department of the company developed subsequent modernisations of Tarpan¹⁷.

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¹⁶ Today there is a Volkswagen manufacturing plant.

¹⁷ New models were e.g. Tarpan 234 (end of the 70s), Tarpan 235, Tarpan F-233 (from 1976), Tarpan 237, Tarpan 237D, Tarpan 239D.

In 1979 in Przemyslowy Instytut Motoryzacji (Industrial Motor Institute) the first PW-1 (multipurpose vehicle) prototype was developed, it was based on Tarpan 234. In the years 1982-1988 a new prototype PW-2 was developed and also research was conducted on a series of the first (6 pieces) and second (15 pieces) version. The tests were conducted in FSR, the Military Technical Academy and the Military Institute of Armour and Vehicle Technology in Sulejowek [22, p. 19]. The prototype of a new model was first presented to the public in 1984, and the series production of PW-2 started in 1988 in the Agricultural Vehicles Manufacturer in Poznan. In a competition organised by FSR, the name Tarpan 4011 (previously PW-2) was changed to Tarpan 4WD Honker¹⁸. In the vehicle there was a Polish engine FSO AA, 75 HP, which, however, turned out not to be powerful enough and as a result it was replaced by a foreign one made by Iveco, this is how the Tarpan Honker 4012 and Tarpan Honker 4022 models were made.

A few years after starting the series production, the design of a shorter version of the vehicle was started (Honker 4032, Zwiad), however, only a prototype was made. Another idea was a Honker ambulance (Honker 4021) with a separated driver cabin and a medical module in the back part. From 1989 the supplied undercarriages were used to produce short series of military vehicles in Wojskowe Zaklady Motoryzacyjne No 4 (Military Motor Works) in Wroclaw (later also in a private company AMZ Kutno where Dzik was also made).

After the political and economic changes in Poland at the beginning of the 90's of the 20th century, the market opened to e.g. imported vehicles. One of the consequences of this new situation was a decrease in the demand for Polish vehicles. As a result in January 1996 the plant in Poznan was closed down and in spring the same year Daewoo Motor Polska bought the licence and manufacturing equipment and moved the Honker production to the former FSC in Lublin where in 1997 a slightly modernised version of Daewoo Honker 2324 started to be manufactured¹⁹. The main customers interested in Honker were various uniformed services, particularly the Polish Armed Forces. The army started to use this type of vehicles in 1990, and the contingents started to use them in the POLBATT UNPROFOR mission in Croatia in 1995.

The vehicle became the main means of transport for infantry patrolling the Polish responsibility zone. Tarpan vehicles were used to transport six soldiers (plus a driver and an operator), however, they were neither armoured nor armed, hence they did not offer any protection from firing and artillery shrapnel, they did not protect them from mine explosions either and one has to remember that there were such accidents in former Yugoslavia. Honkers were used by subsequent contingents performing their

¹⁸ The word honker is an onomatopoeic word in English meaning the sound made by wild geese coming back to their nests. The authors of this name concealed the fact that it was also the cryptonym of the assault operation of the 2nd Polish Corps on the Monte Cassino monastery in May 1944.

¹⁹ In September 2000 the production of Daewoo Honker 2000 started, the changes introduced to this version were only cosmetic improvements of the car body and engine. After Daewoo Motor Polska closed down, which took place at the end of 2000, the production of this 4×4 vehicle was continued by subsequent companies which took over this business and mainly counted on orders from the army. See: S. Drazkiewicz. *Samochod osobowo-terenowy Tarpan 4WD Honker*. Warszawa: Bellona, Agencja Wydawnicza CB; 2003, p. 19.

mandated tasks in Albania in the NATO-led AFOR operation in 1999 and in IFOR and SFOR missions, at present they are also used in the EUFOR Althea operation in Bosnia, and also in KFOR operations.



Fig. 11. Column of three Tarpan vehicles led by BRDM-2 in UNPROFOR mission. Landing forces soldiers are sitting in a non-combat arrangement with their backs directed to the outside. Another element attracting attention is PK 7.62 mm km supported on the spare wheel. Croatia 1995

Source: Photo from Maciej Zimny's archives.

In May 2015 the service in Kosovo was taken over by the 32nd PKW KFOR shift. In mandated tasks mainly Honker vehicles are still used, in this mission it became the workhorse of Polish contingents²⁰. In dangerous situations armoured personnel carriers BRDM-2 are used, they are a part of each platoon²¹. Every day routine and ad-hoc patrols are organised, there are also Quick Reaction Forces – QRF ready to act in the Multinational Battle Group East; joint border patrols with Serbian soldiers in border regions; there are also fixed and interim control point on roads and temporary observation posts near the main roads leading to Serbia [23].

²⁰ Honker Tarpan vehciles were also used by the Polish contingent in Macedonia where on March 4, 2003 during routine operations two commandos from the 1st Special Regiment in Lubliniec were fatally wounded as a result of a mine explosion under their vehicle. This accident was one of the cases proving that Honker was not resistant to this type of danger. Outised the described geographical region, Honkers were used in Polish contingents in Albania (AFOR – 1999) and in Iraq (Iraqi Freedom – 2003-2008).

²¹ The main region of KFOR activity are four areas in Kosovo: Mitrovica, Leposavic, Zubin Potoc and Zvecan. See: B. Politowski. *Ostatni egzamin przed misja w Kosowie*, [online]. Available at: http://www.polska-zbrojna.pl/home/articleshow/15528 [Accessed: 20 December 2015].



Fig. 12. Various types of Tarpan Honker vehicles painted differently by PKW KFOR, Nothing Hill Base, northern part of Kosovo, spring 2014 Source: Photo from Educational Department of the 12th Szczecin DZ.

Conclusions

Polish operational battalions which appeared in peacekeeping missions and peace enforcement operations at the beginning of the 90's of the 20th century were equipped with fighting vehicles whose type depended on the kind of performed tasks. POLBATT serving in the Golan Heights used modern Finnish wheeled armoured personnel carriers Sisu XA-180 which belonged to the UNDOF mission and South African RG-31 Nyala. Polish contingents in the UNPROFOR/UNCRO mission had to be equipped with vehicles used at that time by the Polish Armed Forces. This was a very special period because in the 90's armoured personnel carriers SKOT were being withdrawn from use in the army after two decades of service. It was the time when there was no appropriate vehicle which could safely transport basic tactical units – an infantry squad. Hence in Croatia a completely unprepared for this task model of Tarpan Honker was used and the only proper fighting vehicle in the Polish battalion at that time was armoured reconnaissance patrol vehicle BRDM-2. The experience gained in Croatia resulted in the complete overhaul of these aging vehicles. In the NATO peace enforcement operations IFOR/SFOR in Bosnia and KFOR in Kosovo such new, modernised versions of BRDM-2 were used. When in 1995 IFOR units were introduced to Bosnia, the Polish battalion which was a part of these forces was additionally equipped with tracked infantry fighting vehicles BWP-1, which were later withdrawn as a result of reductions in military forces. In both Balkan states the situation started to stabilise and so Tarpan Honker vehicles started to play a more and more important role in both contingents, although this model was to be transformed into a fighting vehicle only in 2003 in Iraq. In the Military Gendarmerie in Bosnia lightly armoured AMZ Dzik-2 vehciles were used, however, they turned out to be a faulty construction and after a few years were withdrawn not only from the Balkans but also from the army. The experience gained thanks

to the presented vehicles allows to conclude that a large variety of them were used in polish contingents for the purpose of satisfying temporary needs rather than finding a final target model.

Acknowledgement

No acknowledgement and potential founding was reported by the author.

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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Biographical note

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Wozy bojowe w polskich kontyngentach wojskowych w Syrii i byłej Jugosławii w okresie 1992-2016

STRESZCZENIE

W artykule dokonano analizy użycia wozów bojowych w polskich kontyngentach wojskowych, realizujących swoje zadania mandatowe na Bliskim Wschodzie oraz na obszarze byłej Jugosławii. Przedstawiono charakter prowadzonych działań oraz wynikającą z niego rolę owych pojazdów. Opisano historię powstania i rozwoju wybranych wozów bojowych, scharakteryzowano podstawowe dane techniczne i przedstawiono opinie o ich użytkowaniu w czasie wykonywania wspomnianych zadań. Analizie poddano następujące pojazdy: fińskie Sisu XA-180, będące protoplastą KTO Rosomak oraz pochodzące z Republiki Południowej Afryki pojazdy RG-31 Nyala, które były używane przez Polaków w misji UNDOF. Grupę maszyn, będących na wyposażeniu kontyngentów pełniących służbę w misjach na terenie byłej Jugosławii, reprezentują: samochód terenowy Honker Tarpan, samochód opancerzony AMZ Dzik-2, pojazd rozpoznawczo-patrolowy BRDM-2 oraz bojowy wóz piechoty BWP-1.

SŁOWA KLUCZOWE Wojsko Polskie, misje pokojowe, wozy bojowe

How to cite this paper

Ciechanowski G. Fighting vehicles in Polish military contingents in Syria and former Yugoslavia in the years 1992-2016. Scientific Journal of the Military University of Land Forces. 2019;51;3(193):397-416.

DOI: http://dx.doi.org/10.5604/01.3001.0013.4999



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