



Wilfried
Martens Centre
for European Studies

Caught in the Act

Proof of Russian Military Intervention in Ukraine

Executive summary¹

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[Adam Čech](#)

[Jakub Janda](#)

Since its beginning, the conflict in the Donbass has provoked a debate on the involvement of the Russian Armed Forces. Some people reject accusations of Russian military involvement and deem this conflict to be simply a civil war—without military involvement except that of the Ukrainian state. Others claim that Russia has been providing military equipment to the Donbass separatists and even that the Russian army has been directly involved. Using publicly available information, this paper provides irrefutable evidence that Russia has provided weapons to Ukrainian separatists and intervened in Ukraine. It is the presence of T-72B3 tanks, in particular, that proves beyond all doubt that the Russian military has intervened in Ukraine.

Keywords

Ukraine – Donbass – Russia – Russian army – Separatists – Intervention – Invasion – Armed conflict – T-72B3

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Introduction

Many Western politicians have drawn attention to the presence of Russian military equipment in the Donbass. NATO has released several satellite images depicting suspicious movements of the Russian army (RA) near the Ukrainian border and of border crossings of military equipment. All of this is further confirmed by evidence that military equipment used only by the Russian Armed Forces is now in the hands of separatists and by developments in the battlefield, especially the surprising separatist counteroffensive at the beginning of August and September 2014.

In spite of the factual evidence, some European media consider the question of Russian intervention to be simply a matter of opinion. They approach the issue from this perspective, apparently in order to maintain as much objectivity as possible. This uncertainty on the part of the media is supported by public figures who reject the idea that Russia is involved in the conflict. The end result of all this is that views on the issue are considered to be nothing more than personal opinions. The contradictions between the facts on the ground and media reporting prevent parts of European society from understanding what is happening in Ukraine. As we see it, the situation in Ukraine must not be perceived as a matter of opinion. The public has a right to true and clear information and this is our contribution to providing it.

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In this paper we present an analysis of the military equipment that has been used in the Ukrainian Donbass. First, we focus on the development of the separatists' military vehicle fleet during the conflict. Using videos on YouTube and VKontakte, we investigate the fleet before and after 12 June 2014, when Ukraine first accused Russia of supplying separatists with armoured equipment. Second, we look at and analyse observations of military vehicles in the hands of separatists, vehicles the Ukrainian army (UA) does not have in its armament.



The paper covers the period up to the end of February 2015. It was originally published in Czech by the European Values Think Tank.² The Czech version was then translated into English and minor editorial changes were made.

Methodology

Most of this work is based on a great number of sightings of military equipment in separatist-controlled territories in the Donbass. These sightings are mostly in the form of authentic amateur videos or photographs that have been posted on the Internet—mainly on Twitter and YouTube. For Twitter posts, we monitored several accounts that cover the war in the Donbass and share valuable sightings.

Among these Twitter accounts we would like to mention [@JulianRoepcke](#), a *Bild* journalist and analyst who focuses on the Syrian and Ukrainian wars; [@JerryPopowicz](#), a journalist who focuses on Ukraine; [@UKinUkraine](#), the official Twitter account of the UK embassy in Ukraine; [@DajeyPetros](#), another analyst; and [@Ukrologger](#). Their work contributed significantly to our efforts. Another major source of information and sightings was the Ukraine page on [liveuamap.com](#). It collects and provides links to news articles, tweets, videos, official reports and other sources. Using these sources, we were able to collect a significant amount of valuable information on events we did not witness ourselves.

We were fully aware that information from open sources can be unreliable. With that in mind we have included only sources that we were able to verify and whose authenticity and indisputability we were able to ensure. That was achieved, for example, by checking licence plates or by verifying the locations through Google Maps or Google Street View (geolocating).

A great number of the videos on YouTube were accessed through our own research. We used the search term 'xx.xx.2014 ополчению': the date and the Russian term for 'militia'. Again, authenticity and indisputability were the criteria.

² Armádní noviny, ANALÝZA: Důkazy ruské vojenské intervence na Ukrajině, 25 February 2015, accessed at <http://www.armadninoviny.cz/dukazy-ruske-vojske-intervence-na-ukrajine.html?hledat=d%C5%AFkazy> on 20 July 2015.



Additional information was accessed from the following two sources. The first is bellingcat.com, a well-known investigative website operated by and for citizen journalists and analysts engaged in, among other things, coverage of the war in the Donbass. The second source is lostarmour.info, a site that collects reports about destroyed armoured vehicles in the conflict, generally with photo evidence. We used the latter source only in connection with the main battle tank, T-72B3. As will be discussed below, evidence involving this tank is of particular importance for demonstrating that the Russian military has intervened in Ukraine.

Observation of Russian military equipment in the Donbass

Russian drones over Ukraine

There are frequently reports of drone flyovers, particularly over Mariupol and Debaltseve. As of the writing of this paper, the UA has shot down several of these machines, seven of which have been made the subject of detailed photo documentation. We managed to determine the types of unmanned aerial vehicle (UAV). During 2014 the following kinds of drones were shot down:

- On [30 May](#) an Orlan-10 was reported to have been shot down.
- On [1 July](#) the UA shot down a Tachion-type UAV.
- On [13 July](#) and [18 July](#) other Orlan-10-type machines were shot down.
- On [24 July](#) a Granat-1 drone was shot down.
- On the [same day](#), a Zastava drone was shot down.
- On 29 [November](#) the UA shot down Granat-4-type machines.
- On [8 December](#) a Tachion-type UAV was shot down.
- On [16 January](#) a Granat-4 was shot down.

The Orlan-10 is a UAV that a specialised technology centre has been producing for the Russian Armed Forces since the end of 2013. Nothing



is known about whether it has been exported abroad.³ Granat-1, also known as 'Grusha', started to be used in the RA in 2011. It is produced by Izmash.⁴ [Photo documentation](#) of this UAV is available on the Internet. Zastava is a licensed copy of an Israeli UAV, the [BirdEye-400](#). The Russian Federation signed an agreement on domestic production in 2011.⁵

We have found less information about the Granat-4; moreover, the sources are less reliable. Photo documentation can be found on [this](#) Internet forum. According to the available information, it is a Russian Armed Forces machine that was put into service during 2013. In 2014, testing took place at a Russian military base in Armenia.⁶

The UAV Tachion is probably still in the test phase⁷ although its official entry into the service of the Russian Armed Forces was planned for 2014.⁸

Armoured vehicles of the Russian border guard

On 30 December 2014, a [video](#) was published showing military exercises involving separatist tanks in the Luhansk region. Vitalij Kiselyov (Виталий Киселев), a high-level representative of the separatist Luhansk People's Republic, took part in the exercises. In the video the separatists are shown using several T-64 tanks and BMP-2 armoured personnel carriers (APCs). The video also shows [BPM-97](#) APCs—the KAMAZ-43260 Vystrel (Dozor-

³ S. Ostrovsky, 'Ukraine Says it Shot Down a Russian Spy Drone', *Vice News*, 30 May 2014, accessed at <https://news.vice.com/article/ukraine-says-it-shot-down-a-russian-spy-drone> on 31 January 2014. *Unmanned*, 'Russia to Produce its own Unmanned Vehicles', 21 July 2011, accessed at <http://www.unmanned.co.uk/unmanned-vehicles-news/unmanned-aerial-vehicles-uav-news/russia-to-produce-its-own-unmanned-vehicles/> on 31 June 2014.

⁴ *The Voice of Russia*, 'Drones Take Off in Russia's Armed Forces', 19 December 2011, accessed at <http://sputniknews.com/voiceofrussia/2011/12/19/62504769/> on 22 February 2015.

⁵ *Russian Defence Policy*, 'No Funding for Domestic UAVs', 23 June 2011, accessed at <https://russiandefpolicy.wordpress.com/tag/bird-eye-400/> on 22 February 2015.

⁶ *PlanetPutin*, 'Ukrainians Down New Russian Military Granat-4 UAV', 29 September 2014, accessed at <http://www.planetputin.com/ukrainians-down-new-russian-military-granat-4-uav/> on 31 January 2015.

⁷ *ВПК.name*, 'Первым российским БЛА с топливными элементами станет «Тахион»', 14 January 2015, accessed at http://vpk.name/news/124690_pervym_rossiiskim_bla_s_toplivnyimi_elementami_stanet_tahion.html on 22 February 2015.

⁸ *РИАНовости*, 'Роты беспилотников сформированы в ЮВО', 28 January 2014, accessed at http://ria.ru/defense_safety/20140128/991709398.html#ixzz2rfx25GPY on 22 February 2015.



N) version. These vehicles are produced in Russia by KAMAZ. They are used only by the Russian Ministry of the Interior and by Azerbaijan and Kazakhstan.⁹ The same type of vehicle was [photographed](#) a day later in Luhansk, and the image of this vehicle was [geolocated accurately by the Bellingcat group](#).

Pantsir S-1 air defence system

Organisations such as [Bellingcat](#), [Jane's Defence Weekly](#) and [Armament Research Services \(ARES\)](#) have drawn attention to the appearance in the Donbass of [Pantsir S-1](#) (NATO reporting name SA-22 Greyhound). This is an advanced short-range anti-aircraft system which has been in production since 2010. It is used by the Russian Armed Forces and by Algeria, Syria and the United Arab Emirates.¹⁰

The Bellingcat group has thus far recorded three interesting sightings of SA-22:

- On [19 November](#) 2014 an SA-22 was videoed in Russian Rostov-on-Don. It was marked with white circles, which anti-government units in Ukraine use to identify themselves.
- On [29 January 2015](#) an SA-22 Greyhound was photographed near Makiivka. The location has been verified by [Conflictreport.info](#).
- On [8 February 2015](#) an SA-22 was filmed in [Luhansk](#).

In addition, ARES, among others, states that there is evidence this anti-aircraft system was used in the Donbass during 2014. More specifically, there is evidence that the first-stage booster rocket from a 57E6 missile, the primary armament for the Pantsir-S1, was used.¹¹

BTR-82A and BTR-82AM

[These two vehicles](#) are closely related to infantry fighting vehicles derived from the obsolescent BTR-80A. Both are currently used by the

⁹*Military Today*, 'BPM-97', not dated, accessed at http://www.military-today.com/apc/bpm_97.htm on 27 July 2015. *Army-Technology.com*, 'BPM-97 Armoured Personnel Carrier, Russia', accessed at <http://www.army-technology.com/projects/bpm-97-apc/> on 31 January 2015.

¹⁰*Military Today*, 'Pantsyr-S1 (SA-22 Greyhound)', not dated, accessed at <http://www.military-today.com/missiles/pantsyr.htm> on 18 July 2015.

¹¹ J. Ferguson and N. R. Jenzen-Jones, *Raising Red Flags: An Examination of Arms & Munitions in the Ongoing Conflict in Ukraine, 2014*, Armament Research Services Report No. 3, 2014, 78.



Russian Federation. The BTR-82A is also used by Kazakhstan.¹²

In Ukraine at least two of BTR have been observed:

- [Three videos](#), all from August 2014, show a group of anti-governmental fighters near a BTR infantry fighting vehicle. The armed men have white armbands, which is a widely recognised marking of the separatist infantry. In one of the videos a licence plate is clearly visible: [BB3624CO](#), which is registered in the Luhansk region.¹³
- There is [photo documentation](#) from 29 August of a damaged vehicle, allegedly in the town of Novosvetlivka.

ARES also drew attention to the presence of the BTR-82AM in its paper, *Raising Red Flags*.¹⁴

Radar 1L271 Aistonok

The Aistonok is a movable radar system designed to navigate mortar and artillery fire precisely or to determine the position of the enemy's artillery. It was introduced in 2008, and so far there has been no information about its implementation in the Russian Armed Forces.¹⁵ Nevertheless, this radar appeared in the anti-government forces' equipment [on 15 January 2015](#).

Russian arms in Ukraine? Analysis of the YouTube and VKontakte videos

On 12 June 2014, Ukraine announced that its boundaries had been crossed by a convoy with three T-64¹⁶ tanks, information indirectly

¹²*Army-technology.com*, 'BTR-82A Armoured Personnel Carrier, Russia', not dated, accessed at <http://www.army-technology.com/projects/btr-82a-armoured-personnel-carrier/> on 18 July 2015.

¹³*Nomer.pp.ua*, 'BB3624CO', not dated, accessed at <http://nomer.pp.ua/auto/BB3624CO> on 22 February 2015.

¹⁴ Ferguson and Jenzen-Jones, *Raising Red Flags*, 69.

¹⁵*TopWar.ru*, 'Радиолокационный комплекс разведки и контроля стрельбы 1Л271 «Аистенок»', 22 January 2015, accessed at <http://topwar.ru/67252-radiolokacionnyy-kompleks-razvedki-i-kontrolya-strelby-1l271-aistenok.html> on 22 February 2015.

¹⁶ N.Zinets and T. Heritage, 'Ukraine Accuses Russia of Letting Rebels Bring in Tanks', *Reuters*, 12 June 2014, accessed at <http://uk.reuters.com/article/2014/06/12/uk-ukraine-crisis-tanks-idUKKBN0EN1ZB20140612> on 31 January 2015.



confirmed by NATO.¹⁷ Denis Pushilin (Денис Пушилин), the leader of the separatist Donetsk People's Republic, attested to the acquisition of these tanks and noted that they were a crucial contribution that would enable the separatists to respond to Ukraine's advance. He did not, however, comment on the origin of the tanks.¹⁸ This statement led to a need to verify whether the separatists had actually possessed any tanks before 12 June.

For this purpose we analysed publicly available amateur videos on YouTube.com that depict armoured vehicles in the hands of Ukrainian separatists. We compared the content of videos published before 12 June with those published after this date. We believed that by taking into consideration the events on the battlefield, we would be able to obtain a clearer picture of the separatist fleet during the conflict.

We browsed the videos using the headword 'xx.xx.2014 ополчению': the date and the Russian term for 'militia'. For a time frame, we settled on the period between 16 April 2014, when the separatists first seized armoured machinery, and 16 July 2014, because we thought that an observation period of one month after the alleged start of deliveries should be sufficient. We only used videos displayed on the first five pages of the search results.

16 April–11 June 2014

- On 16 April, during the start of the antiterrorist operation, the UA lost some armoured vehicles: they were handed over to the locals by Ukrainian soldiers. The losses were five [BMD-1s](#) or [BMD-2s](#) and one [2S9 Nona](#) heavy self-propelled mortar, which was lost at Kramatorsk near Slovyansk ([1](#), [2](#), [3](#), [4](#), [5](#)). Two videos ([1](#), [2](#)), probably of a separatist BMD-2 at Slovyansk, appeared on 14 May. [Two more videos](#) of BMD-2s in the same area appeared five days later.
- A [convoy](#) consisting of four army trucks and a number of civilian vehicles under the Russian flag passed through Luhansk on 5 May. This convoy allegedly belonged to Don Cossacks.
- A Ukrainian [BMP-2](#) infantry fighting vehicle (IFV) was captured in Mariupol on 9 May. It appears on a [video](#) from 13 May.
- On the same day, a separatist convoy consisting of distinctive blue civilian

¹⁷NATO, 'NATO Releases Imagery: Raises Questions on Russia's Role in Providing Tanks to Ukraine', 14 June 2014, accessed at <http://aco.nato.int/statement-on-russian-main-battle-tanks.aspx> on 31 January 2015.

¹⁸*Vesti.ru/Russia* 24, 'Пушилин: покушение организовала украинская сторона', 13 June 2014, accessed at <http://www.vesti.ru/videos/show/vid/604240/#> on 31 January 2015.



trucks tried to [surround](#) positions of the National Guard in Donetsk. The same convoy, which was allegedly from the Vostok battalion, was captured in videos from 9 ([1](#), [2](#)) and [10](#) May.

- A [BRDM-2](#) was [filmed](#) in Luhansk on 17 May.
- Two [BRDM-2](#) APCs were [filmed](#) in Lysychansk on 22 May. [Another two](#), along with several military trucks, were filmed on the following day.
- There are several [videos](#) of a military parade of the Vostok battalion in Donetsk on 25 May. Military trucks and one [BTR](#) APC took part. On 28 May the Vostok battalion's BTR was [filmed once again](#) at the head of a convoy of civilian vehicles.
- A [video](#) from 29 May captures a separatist standing in front of a [BTR-4](#) APC near Slovyansk.
- On 5 June, separatists from Kostiantynivka [recommissioned](#) a Second World War-era [IS-3](#) heavy tank and used it in combat.¹⁹
- A video from 8 June from an unidentified location [captured](#) what appears to be a separatist convoy composed of one BTR, one trailer truck with an anti-aircraft cannon and three military trucks.
- Another [video](#) was taken in Makiivka near Donetsk on 10 June. It shows a separatist convoy consisting of 10 military trucks, 8 of which were special-purpose vehicles (such as command or communication vehicles, and mobile workrooms).
- Between 16 April and 11 June, the separatists had the following types of equipment at their disposal: the [BMD-1](#); [BMD-2](#); [BTR-60](#), [70](#) and [80](#); [MT-LB](#); [BTR-4](#) armoured personnel carrier; [BMP-2](#) IFV; anti-aircraft cannons; self-propelled [2S9 Nona](#) heavy mortar; and at least one [IS-3](#) heavy tank from the Second World War. Thus, according to the available information, they did not possess heavy anti-tank weapons such as tanks and field guns, nor did they have heavy artillery pieces such as howitzers and multiple-launch rocket systems.

It seems reasonable to say that it was due to the near absence of heavy weaponry in the area of the conflict that the intensity of the fighting was comparatively low. This contributed to there being few casualties: the Ukrainian Health Ministry counted the number of dead in the conflict as 270 as of 11 June.²⁰

¹⁹ B. McGarry, 'Video: Ukraine Separatists Try to Crank Up WWII Tank', *Defensetech*, 9 June 2014, accessed at <http://defensetech.org/2014/06/09/video-ukraine-separatists-try-to-crank-up-wwii-tank/> on 31 January 2015.

²⁰ Associated Press, 'Ukraine Says Pro-Russian Separatists Shot Down Military Transport Plane; 49 Dead', *The Washington Post*, 14 June 2014, accessed at



12 June–15 July 2014

- We found six videos taken on 12 June: [The first one](#) shows a [T-64](#) tank, allegedly crossing through Snizhne. [The second one](#) shows a convoy of two military trucks under the Russian flag, three T-64 tanks and a white bus. The convoy moves through the city of Torez, a few kilometres west of Snizhne, in the Donetsk oblast. [The third](#) and [fourth](#) are from the same city. [The fifth](#) shows the convoy passing through Makiivka in the suburbs of Donetsk. [The final video](#) is from Donetsk and shows the same convoy. None of the vehicles shown had any identification symbols indicating affiliation to a military unit.
- On 17 June a [video](#) was published that shows separatists boasting about a captured Ukrainian T-64 tank. It was allegedly taken in Luhansk. [Another video](#), published on 25 June, shows a very similar—if not the same—T-64 allegedly passing through Luhansk.
- Three videos made on 20 June show a convoy of three or four T-64 tanks and a range of other military vehicles passing through [Alchevsk](#) (to the west of Luhansk) and another [unidentified locality](#). Later that same day the convoy was [recorded](#) in Luhansk.
- On 21 June another [convoy](#) was filmed, allegedly in Torez. The convoy consisted of at least two T-64 tanks, three BTR APCs and some military trucks.
- On 4 July two videos were taken in Krasnodon, only 10 kilometres from the Donetsk–Izvaryne crossing. [One](#) shows a three-tank convoy in the city (the [exact location](#) was determined by [ukraineatwar.blogspot.cz](#)²¹). In the [second video](#) one sees what is probably the same convoy with five tanks, but although it appears to be taken in Krasnodon, this could not be verified.
- Videos from Luhansk show a convoy of five T-64 tanks, four armoured BMP-2 IFVs, three armoured MT-LB transporters with towed howitzers, a [Grad multiple-launch rocket system](#) (MLRS), and a few military or civilian trucks. These videos were recorded on 13 July (video [1](#), [2](#)).
- Three videos ([1](#), [2](#), [3](#)) taken in Donetsk and the surrounding area on 15 July show a convoy of two to four T-64 tanks, three [2S1 Gvozdika](#) self-propelled howitzers, a truck and an armoured BTR transporter.

<http://www.washingtontimes.com/news/2014/jun/14/ukraine-says-pro-russian-separatists-shot-down-mil/?page=all> on 31 January 2015.

²¹Ukraine@war (Blog), 'Latest Tanks in Krasnodon Likely Going to Engage Ukrainian Company Near Izvaryne', 4 July 2014, accessed at <http://ukraineatwar.blogspot.cz/2014/07/latest-tanks-in-krasnodon-likely-going.html> on 31 January 2015.



The places where some of the convoys were sighted (see Figure 1) are highly significant. For instance, the first convoy mentioned above went through Snizhne and then on to Donetsk. Another convoy was photographed in Torez and yet another in Krasnodon. Snizhne and Torez lie on the main route between Donetsk and the border crossings at Dolzhans'kyi–Zakordonnyj and Chervenopartyzansk–Gukovo. Krasnodon lies only approximately 10 kilometres from the border crossing at Izvaryne–Donetsk, on the main route between the border and Luhansk.

During June 2014 the separatists extended their fleet with a [T-64](#) tank, [self-propelled](#) and towed howitzers, and MLRS [Grads](#). The artillery pieces are the most interesting. One could attempt to account for them by arguing that the separatists seized damaged and abandoned tanks or APCs on the battlefield, although in such numbers this seems highly unlikely—and all the more so if one bears in mind that at the beginning of June they had tried to defend their territory using a museum showpiece. But the question that remains is this: How could the separatists possibly obtain heavy artillery pieces located several kilometres behind Ukrainian lines? When this equipment first appeared in their hands, they were already retreating.

By searching YouTube, we tried to verify whether the separatists possessed any artillery or MLRS pieces before 12 June 2014. It is true that there is a [video](#) of the MLRS Grad that is allegedly in the hands of the separatists near Slovyansk. However, its authenticity is questionable, because the terrain in the video is hilly, whereas Slovyansk and the Donbass are for the most part flat. Again, a number of newspaper articles accuse the Ukrainian side of operating Grads, including around Slovyansk, but other articles deny this. In any event, we have not found evidence that the separatists possessed artillery or MLRSs before 12 June.

During our search we discovered a [video](#) that, according to the voice commentary it carries, shows the previously mentioned self-propelled 2S9 Nona heavy mortar firing at Ukrainian positions. Nevertheless, there is no indication that the separatists possessed any large number of these weapons, let alone heavy artillery.

UA warehouses

While searching for the origin of these weapons, we tried to find out whether separatists would have been able to get hold of them by seizing



a military depot or base within their territory. We found a few messages on the Internet concerning a UA military tank warehouse in Artemivsk to the north of Donetsk. The city fell under the separatists' control in the spring, but the depot itself remained under the control of the UA.

Along with other media, the Russian newspaper *Pravda* [announced](#) that this depot had been seized on 20 June and that hundreds of tanks and APCs and a great deal of artillery had got into separatist hands. However, other news channels, including TSN Pahok, [stated](#) on 26 June that the separatists' tank assault on the depot had been repelled. This video recorded at that time ([2](#)) confirms the TSN version. We have not discovered anything that would suggest that the Artemivsk depot fell to the separatists. Moreover, we have found no reports about other military armour depots within separatist territory.



Figure 1 Control of Ukrainian territory by the Ukrainian authorities and the separatists²²

²²This map shows the approximate extent of the rebel-controlled and Ukrainian-controlled territories on 12 June 2014. The information it provides is based on various maps, news reports and amateur videos recorded by local residents. The basic orientation was provided by [New York Times coverage](#) and Vice News' [Russian Roulette series](#), as well as by the authors' own observations of developments on the frontline, which, in turn, were based on various sources. However, the information obtained in this way was general. To arrive at a more complete and detailed picture, we had to check the situation at all of the major 'frontline' places, such as Donetsk Airport, Sloviansk, Kramatorsk, Artemivsk, Severodonetsk, Schastya and Stanytsia



Russian tanks in Ukraine: autumn 2014

In July 2014 the UA managed to push separatist forces deep inside their own territory. Luhansk was almost completely encircled, separatist republics lost ground contact with each other and the Donetsk People's Republic was thus surrounded by loyalist forces. At the end of August, however, an unexpected turn occurred when anti-government forces launched an overwhelming assault, forcing the UA into the defensive and causing great losses of human life, territory and equipment. At that time the first video recordings of the deployment of T-72 tanks on the separatist side started to appear—as has been pointed out by, for example, the [British embassy in Kyiv](#). (The main differences between the T-64 and T-72 will be described below.)

The UA almost certainly did not use T-72s at this stage of the conflict—the first reports of them being reintroduced into active service are from December 2014.²³ The spotting of T-72s does not necessarily prove that the RA was present on Ukrainian soil. Therefore, we thoroughly examined the relevant pieces of the equipment that had been spotted in the Donbass since the middle of August 2014. In this way we would be able to ascertain whether some of the equipment had been supplied by the Kremlin.

The equipment of the UA and the RA, and technical specifications

A serious discussion of the military equipment present in the Donbass requires that we learn about the armament of the Ukrainian and Russian armies. The backbone of the UA tank units is made up of various versions

Luhanska. The same approach was applied to the border crossings. However, the frontline is still considered only indicative. *Sources*: *The New York Times*, 'Ukraine Crisis in Maps: A Visual Guide to the Continuing Conflict', 10 March 2015, accessed at http://www.nytimes.com/interactive/2014/02/27/world/europe/ukraine-divisions-crimea.html?_r=1 on 2 July 2015; *YouTube.com VICE News*, 'Surrounded by War in Sloviansk: Russian Roulette (Dispatch 48)', 10 June 2015, accessed at <https://www.youtube.com/watch?v=WY3eDibvcMs&list=PLw613M86o5o5zqF6WJR8zuC7Uwv76h7R&index=49> on 2 July 2015.

²³*Lugansk Today*, 'Ukrainian Army Got Modern T-72UA Tanks and New BTR-4E APC', 8 December 2014, accessed at <https://www.youtube.com/watch?v=q0SKVBKafqY> on 31 January 2015.



of the T-64 tank (see Figure 2). The UA also possesses some domestically modified versions of the T-72 tank (see Figure 3). However, all of the T-72s were mothballed and put into reserve depots long before the war started, with many of them being subsequently sold to foreign customers. The first report of the reintroduction of T-72s by the UA is from December 2014, when the UA received a few renovated [T-72A](#) and [T-72UA1](#) units.²⁴ The Ukrainian arms industry, Kharkiv-based Morozov KMDB, offers foreign customers modernisations of T-72 tanks, for example, the [T-72AG](#).²⁵

The RA uses several types of tank but mainly ones from the T-72 family. Modifications of the T-64 were removed from active service; however, about 2,000 remain in army reserve depots.²⁶ Regarding the T-72s we would particularly like to mention the [T-72B3](#) (on which see below), the [T-72B \(1989\)](#) and the [T-72BA \(1990\)](#). All of these tanks are equipped with Kontakt 5 explosive reactive armour (ERA). This type of additional protection is not used by any Ukrainian tank although it is regularly mistaken for Ukrainian 'Knife' (нож) armour, which while similar in appearance, is based on a different technology.²⁷

²⁴Ibid.

²⁵Kharkiv Morozov Machine Building Design Bureau, 'Modernization of T-72 Tanks', accessed at <http://morozovkmb.com/eng/body/t72.php> on 31 January 2015.

²⁶NATO, 'NATO Releases Imagery'.

²⁷*BTVT.narod.ru*, 'Защитные устройства динамического типа «Нож»', not dated, accessed at <http://bvtv.narod.ru/4/noz/noz.htm> on 22 February 2015.

Figure 2 T-64 initial product version²⁸

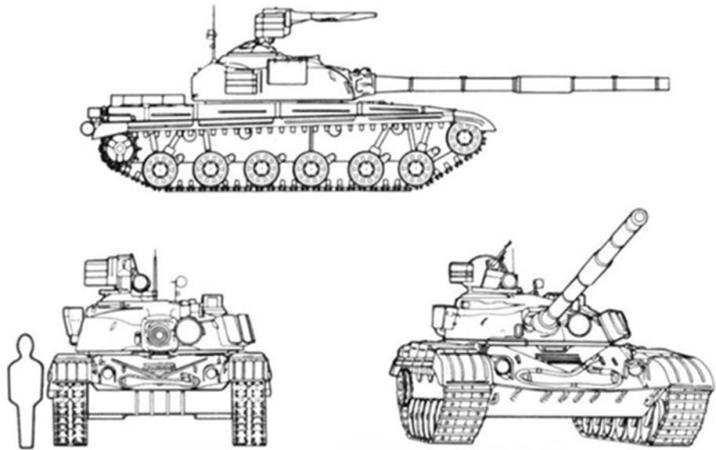
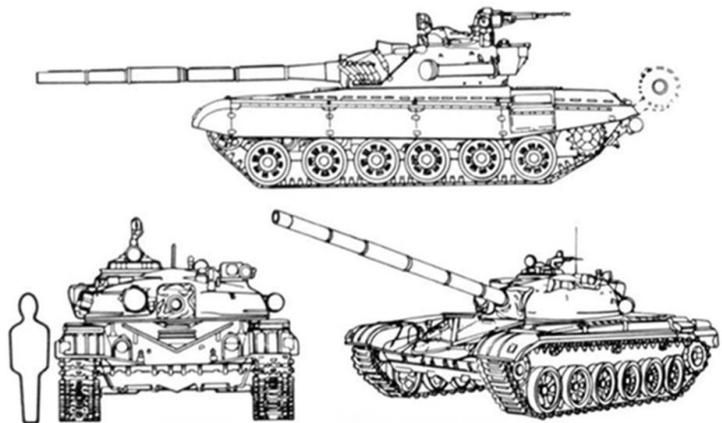


Figure 3 T-72 initial product version²⁹



²⁸ Source: *TopGun.rin.ru*, 'Основной боевой танк Т-64', not dated, accessed at <http://topgun.rin.ru/cgi-bin/index1.pl?a=units&field=8&unit=2258> on 2 July 2015.

²⁹ Source: Gary's Combat Vehicle Reference Guide, 'T-72 Main Battle Tank', 18 May 2008, accessed at <http://www.inetres.com/gp/military/cv/tank/T-72.html> on 1 July 2015. Note: Drawings of the basic versions of the T-64 and T-72. The most distinct difference is the chassis.

Figure 4 T-72B3, detail³⁰



³⁰ Sources: (from upper left) *otvaga2004.ru*, 'Показ Боевой Техники В Алабино. Танк Т-7263 – Фотодетализация', <http://otvaga2004.ru/tanki/tanki-fotogalereya/alabino-tank-t-72b3/>; *TankTech.Wordpress.com*, 'Sosna-U', <https://tanktech.wordpress.com/2009/07/09/sosna-u/>; V. V. Kuzmin, 'Парад Победы 2014 в Нижнем Новгороде (2014 Victory Day Parade in Nizhny Novgorod)', <http://vitalykuzmin.net/?q=node/563>. For the last-mentioned item, we were not able to find the link to the original source. However, the red star symbol indicates that it is a picture from footage by TV Zvezda (<http://tvzvezda.ru/>). The symbol was modified at the beginning of 2015.



Russian tanks in Ukraine: sightings of T-72B3 in 2014

This tank has been videoed in the Donbass several times since August 2014 and has become a point of interest for experts on military hardware³¹ because it is one of the most modern tanks in the RA. It utilises the Sosna-U, a gunner's thermal imaging device which supersedes the Luna infrared reflector, and is equipped with Kontakt 5 ERA.³² Thanks to these characteristics it is easily distinguishable from all of the older T-72s.

The T-72B3 was introduced into RA service only in 2013, and until now the Russian Federation has been the only country to use it.³³ It is important to stress this because the last (officially admitted) military conflict of the Russian Federation took place in Georgia in 2008, which means the T-72B3 should have never seen active combat—and, of course, none of these tanks should have been destroyed.

Russian tanks in Ukraine: sightings of T-72s in 2014

- On 26 August 2014, when the UA was being pushed back from their positions, the inhabitants of the Ukrainian city of Sverdlovsk (about 10 kilometres from the border crossing at Chervonopartyzanks–Gukovo) [recorded a convoy](#) consisting of four T-72 tanks, five MT-LBs and two BMP-2s. This is the first video of the T-72 in this conflict. The convoy travelled under the flag of the Donbass People's Militia. It is possible to verify the place where the video was taken by means of the licence one of the civilian vehicles behind the convoy displays. This licence plate, [BB2974CH](#), is registered in the Luhansk oblast.
- On 28 August a [video](#) of a long column of military equipment was uploaded to YouTube. In the column are several T-72 tanks, at least one

³¹ Ferguson and Jenzen-Jones, *Raising Red Flags*, 67.

³² *Military Today*, 'T-72B3', accessed at <http://www.military-today.com/tanks/t72b3.htm> on 31 January 2015.

³³ Ferguson and Jenzen-Jones, *Raising Red Flags*, 67.



of which is the T-72B3, and a large number of APCs. None of these vehicles has any regular identification markings, and the same holds for the soldiers in the column. However, the vehicles are marked with white circles, and the soldiers have white bands on their arms. These markings are regularly used by anti-government forces for identification purposes.³⁴

- On 29 August a T-72B3 was destroyed near Novodivrske.
- Presumably during the same day, another T-72B3 was destroyed near Chervonosil'ske (between Ilovaisk and Starobesheve). The wreckage was even filmed by an RT.com press team.
- Sometime at the end of the month, National Guard soldiers fighting near Ilovaisk managed to capture one of the T-72B3s for a few days. The tank is marked with white circles.
- On 3 September a dashcam video was made of a large convoy in the Luhansk oblast only a few kilometres from the border with the Russian Federation. The convoy consisted of at least two T-72B3 main battle tanks, 12 APCs, 9 trucks and 7 towed artillery pieces. One can see that the soldiers riding the vehicles are wearing white arm bands. Visible on the tanks is the marking 'H2200', which is used as an indication of oversized cargo in Russia³⁵ and in Ukraine.³⁶ The dashcam video also records the exact geolocation of the car, so it is possible to identify the precise location of the convoy. Some of the vehicles have yellow inscriptions and signs on their hull. However, we were unable to find reliable information which would direct us to the unit to which these vehicles might belong.
- On 15 September a video was published that shows what is allegedly a captured Ukrainian tank. It has white stripes painted on it, the marking used by pro-government forces. However, it is evident that this tank is a Russian T-72B3. The cameraman managed to record even the inside of the tank, which allows us to see that the electronic system was made by Thales Optronics. This company collaborated with Peleng and VOMZ on the development and manufacture of the sighting systems used on the T-

³⁴ M. Tsvetkova, 'Heavily Armed "Men in Green" Enter East Ukrainian Villages', *The World Post*, 26 August 2014, accessed at http://www.huffingtonpost.com/2014/08/26/ukraine-men-in-green_n_5717589.html on 31 January 2014. *Ukraine Today*, 'Russian Invasion of Ukraine: Reuters Captures Video of Column of Russian Army Vehicles', 28 August 2014, accessed at <https://www.youtube.com/watch?v=3cQQtx5LYAM> on 31 January 2015.

³⁵ <http://www.ru.wikipedia.org>, 'Габарит погрузки', accessed on 31 January 2014.

³⁶ Ukrainian Ministry of Transport, *Інструкція з перевезення негабаритних і Великовагових вантажів заліzniцями України*, 23 November 2004, accessed at http://old.uz.gov.ua/index.php?m=info.normdocs.otherdocs&f=Doc.View&p=instr_negabari_t&lng=ru on 31 January 2015.



72B3 and T-90 tanks.³⁷

- On 16 December, another T-72B3 was allegedly **destroyed** somewhere in the Donbass.
- A **video** from 20 December records a sizeable formation of T-72s in the city of **Starobesheve**.³⁸ The place can be determined by means of the geolocation data supplied by the video footage. Verification is provided by a licence plate number on one of the vehicles: the licence plate **AH5832CP** is registered in the Donetsk region.
- A **video** was shot near Debaltseve on 15 February 2015. It was taken by the staff of British reporter Graham Phillips. The video records three T-72B3 tanks waiting on the side of a road.

There are many more videos and other sightings of T-72s in the Donbass from these days; however, either they are not convincing enough or their authenticity is questionable. Therefore, we have settled for the videos listed above, which we believe to be the most valuable.

It is clear that during August and September 2014 the separatists received many pieces of military equipment which the UA does not have. It is also clear that these weapons were delivered to the separatists on Ukrainian soil from the territory of the Russian Federation. Moreover, it seems very likely that at least the most sophisticated ones—and certainly the T-72B3s—are and were operated by Russian crews. It is probable that one purpose for the use of these sophisticated weapons was to test them in real combat conditions. Therefore, one can speak of a Russian invasion of Ukraine.

Conclusions

We have carefully analysed the videos published on YouTube and VKontakte that show the separatist forces' military equipment. Moreover, we have compared the events portrayed against the events of the war itself. Having done all this, we have come to the following conclusions.

³⁷ T. Musil, 'Mýtusdvochlodí, alebozabúdanéfakty o sankciách', *SME Blog*, 31 July 2014, accessed at <http://musil.blog.sme.sk/c/362064/mytus-dvoch-lodi-alebo-zabudane-fakty-o-sankciach.html> on 31 January 2015.

³⁸ D. Petros, Twitter Post (Ukraine@War), 'Broken Down Russian Tank at Starobesheve', 20 December 2014, accessed at <https://twitter.com/dajeypetros/status/546258135351300096> on 25 June 2015.



In the early phase of the war, between April and 12 July 2014, the separatists possessed very few armoured vehicles. Their fleet of vehicles was limited to armoured personnel carriers of various types, a very significant number of which they had obtained from the UA without a fight. We have not found any indication that the separatist forces possessed any heavier weapons, except one heavy mortar and one World War Two-era tank. Had the separatists possessed other equipment, they would certainly have deployed it in combat as soon as possible. Furthermore, this equipment would have been videoed by the local population, as were the tanks on 12 June.

On this date, approximately at the time of the first major successes of the UA, the first tank convoy riding through separatist territory was recorded by at least six people. The convoy was travelling along the route to Donetsk in the direction leading from the border with Russia. The reactions of the onlookers make it clear that this was a very unusual spectacle for them. The tanks were T-64s, which the UA uses in large numbers. However, thousands were also present in the RA's reserve depots. In the days that followed, other videos of other tank convoys appeared, some of them shot only a few kilometres from the Russian border. Within a month the separatists possessed self-propelled artillery, towed howitzers, multiple-launch rocket systems and UAVs.

However, these gains in military equipment did not change the tide of the war. Pro-government forces managed to encircle the city of Luhansk almost completely and to divide the territories of the Donetsk and Luhansk People's Republics, effectively surrounding the former in the middle of the August. It was precisely at this time—when it seemed that the war might end within several weeks—that the first T-72 tanks and other military hardware appeared in great numbers in separatist territory.

The T-72s provide the ultimate proof of Russian military intervention in the Donbass.

The T-72s provide the ultimate proof of Russian military intervention in the Donbass, especially because the UA was not actively using these tanks at that time. However, because these tanks were still stored in reserve depots of the UA, we had to go deeper and focus on details to ensure that our conclusions would be beyond dispute. The final and at the same time strongest piece of evidence is the presence of the T-72B3 version of the



T-72 tank, which had been used exclusively by the Russian Armed Forces since 2013.

In the first months of 2015 we were witnessing the consolidation of Russia's power and positions. The Kremlin has continued to send military hardware to the Donbass, including a BPM-97 armoured personnel carrier, a Pantsir S-1 anti-air defence system and Aistonok artillery radars.

The evidence that the Kremlin's arguments are false is irrefutable. Above all else it is the sightings of T-72B3 tanks that prove beyond any doubt that the Russian military has been present in Ukraine.

About the authors

Jakub Janda is Deputy Director of European Values Think Tank.

Adam Čech works as a fellow in the Analytical Team of the European Values Think Tank.



Credits

Wilfried Martens Centre for European Studies
Rue du Commerce 20
Brussels, BE 1000

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