

MH17 - Potential Suspects and Witnesses from the 53rd Anti-Aircraft Missile Brigade

A bellngcat Investigation



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Introduction

In a previous report, *Origin of the Separatists' Buk*,¹ the Bellingcat investigation team described the movements of a Buk-M1 missile launcher in Ukraine, which was filmed and photographed in Donetsk, Zuhres, Torez, Snizhne, and Luhansk on 17 July 2014, the day Malaysia Airlines Flight 17 (MH17) was downed. That report provided evidence supporting the hypothesis that this particular Buk-M1 was likely responsible for downing MH17 for two primary reasons: first, it was in range of MH17 shortly before it was downed; second, a missile was missing from the Buk the morning following the downing.

Origin of the Separatists' Buk also described two separate military convoys filmed and photographed in Russia from 23 to 25 June and from 19 to 21 July 2014. These convoys transported Buk-M1 missile launchers along with numerous other types of military vehicles from an area near Kursk to an area near the Russia-Ukraine border in the Rostov Oblast². One Buk-M1 missile launcher in the 23-25 June 2014 convoy is particularly noteworthy, because it shares many common features with the Buk-M1 that was located within firing range of MH17 and was filmed on 17 July 2014 driving toward the center of an area that was assessed by the Dutch Safety Board to be the launch area of the Buk missile that downed MH17 in Ukraine.³ An examination of the vehicles and license plates of the military convoys in the summer of 2014 reveals that these convoys originated at a military base near Kursk, just west of the village Marshala Zhukova, where the 53rd Anti-Aircraft Missile Brigade (military Unit 32406) is based. Soldiers of the 53rd Anti-Aircraft Missile Brigade posted images of vehicles seen in the June and July 2014 convoys, as well as photographs of the June 2014 convoy itself, on social media sites such as VKontakte⁴ (or VK, a popular Russian social network akin to Facebook), Odnoklassniki⁵ (or OK, a Russian social media site more popular with older generations), and Instagram. In addition to pictures of vehicles, some soldiers posted images of military certificates showing the completion of what can be presumed to be a military exercise that took place between 22 June 2014 and 25 July 2014.

The present report conducts a deeper investigation into the 53rd Anti-Aircraft Missile Brigade, its organizational structure and placement in the Russian army, and the military vehicles involved in the June and July 2014 Buk convoys. This report also describes the results of a thorough investigation of soldiers and officers of the 53rd Anti-Aircraft Missile Brigade related to the convoys and/or other military operations in the summer of 2014. If the Buk crew consisted of Russian soldiers and officers, it is likely that some number of these soldiers and officers knew the crew members of the Buk missile launcher involved in the MH17 tragedy, or were possibly crew members themselves. Additionally, this report confirms that the certificates mentioned above belong to students of a technical university who completed a training course at the base of the 53rd Anti-Aircraft Missile Brigade near Kursk. Some officers can be exculpated from involvement in any of the Buk convoys because cadets from two universities posted pictures of these officers in their photo albums at the base of the 53rd Anti-Aircraft Missile Brigade in the summer of 2014.

¹ <http://www.bellingcat.com/news/uk-and-europe/2014/11/08/origin-of-the-separatists-buk-a-bellingcat-investigation>

² An 'oblast' is a Russian administrative division similar to a 'region' or 'province'

³ <http://www.bbc.com/news/world-europe-34511973>

<http://www.telegraph.co.uk/news/worldnews/europe/ukraine/11928778/MH17-hit-by-Buk-missile-Ukraine-plane-crash-Russia-live.html>

<http://www.bellingcat.com/news/uk-and-europe/2015/10/17/dsb-launch-site>

⁴ <http://www.vk.com>

⁵ <http://www.ok.ru>

An uncensored and more extensive version of this report was sent to the Joint Investigation Team in December 2015. The real names and identities of all soldiers and officers have been shared with the JIT in the uncensored version of this report. Most of the individuals in this report have been censored, to varying degrees. Bellingcat has assigned three tiers of censorship to Russian soldiers and officers:

- No censorship: prominent, public commanders in the Russian military. These individuals, from the commander of the 53rd Anti-Aircraft Missile Brigade up to the Russian President, have previously appeared in Russian media and in official documents. Their full names and uncensored photographs appear in this report.
- Partial censorship: officers of the 53rd Anti-Aircraft Missile Brigade are presented with partial censorship, including their first name and the first letter of their surnames. The faces of these officers are blurred.
- Full censorship: soldiers (contract soldiers, conscripts, and cadets) are fully censored in this report. Bellingcat has assigned each soldier a first-name pseudonym and blurred their faces.

Section One: The 53rd Anti-Aircraft Missile Brigade

Videos and photographs of the 23-25 June 2014 Buk convoy reveal its approximate route from Kursk to Millerovo. One video in particular shows the first location that the convoy was spotted⁶ near Dolgoye, to the east of Kursk. The convoy likely originated from a military base near Kursk, given the presence of military installations there. The part of road A144 (E38) between Podlesnyy and Dolgoye, where the convoy was filmed for the first time, is very close to Marshala Zhukova, where there is a nearby military base.⁷ Wikimapia shows that several military units are based at this location: units 32406, 35535, and 42699.⁸

Researching these unit numbers reveals that Unit 32406 corresponds with the 53rd Anti-Aircraft Missile Brigade (in Russian, **53-я зенитно-ракетная бригада**) and Unit 35535 is the 448th Missile Brigade (**448-я ракетная бригада**). Several sources also reveal that the Buk-M1 system⁹ belongs to the 53rd Anti-Aircraft Missile Brigade, while the 448th Missile Brigade operates Tochka-U.¹⁰ Unit 42699 refers to two different units, both of them likely disbanded a few years ago.



Military base of Units 32306 and 35535, to the west of Marshala Zhukova.

⁶ <http://bellingcat-vehicles.silk.co/page/0001-Kursk%3A-Buk-convoy-seen-from-a-car>

⁷ <http://www.google.nl/maps/@51.7159774,36.334901,5316m/data=!3m1!1e3>

⁸ <http://wikimapia.org/#lang=en&lat=51.707034&lon=36.309085&z=15&m=b>

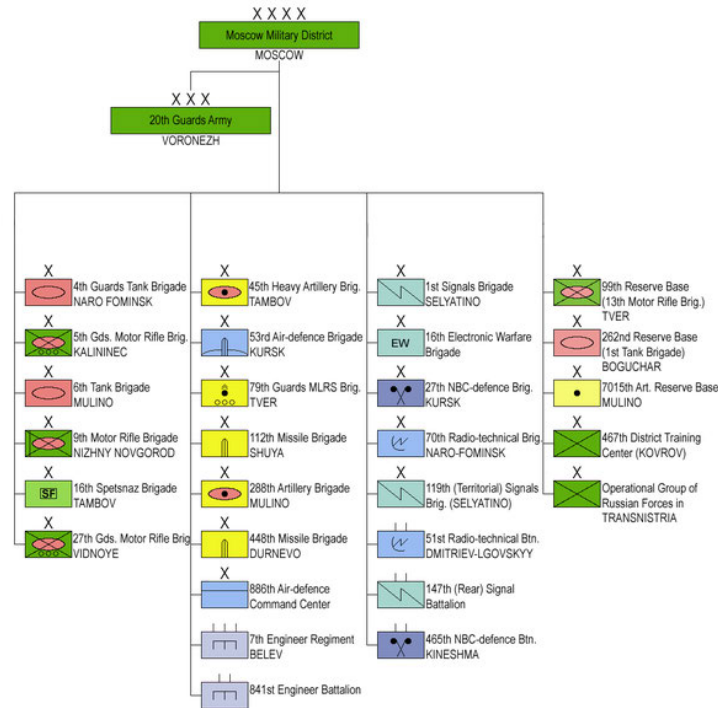
⁹ <http://warfare.be/db/lang/rus/linkid/1690/catid/264/>

see also: http://en.wikipedia.org/wiki/Buk_missile_system

¹⁰ <http://warfare.be/db/lang/rus/catid/239/linkid/2239/base/544/>

see also: http://en.wikipedia.org/wiki/OTR-21_Tochka

Until 2010, both the 53rd Anti-Aircraft Missile Brigade and the 448th Missile Brigade (which were and still are a part of the 20th Army) belonged to the Moscow Military District. On 20 September 2010, the Moscow Military District was merged with the Leningrad Military District, the Northern Fleet, and the Baltic Fleet to form the Western Military District.¹¹



Structure and units of the Moscow Military District in 2010.¹²

In September 2010, the 53rd Anti-Aircraft Missile Brigade also became part of the 20th Army – headquartered in Voronezh – just as the 448th Missile Brigade had done before September 2010.¹³

Like other anti-aircraft missile brigades, the 53rd Anti-Aircraft Missile Brigade consists of battalions further divided into batteries (a military unit similar to a company) with several Buk-M1 anti-aircraft units. In Russia, similar terms are used for certain military units as in English, but with some confusing differences. For example, a battalion of an anti-aircraft missile brigade is a ‘division’ (дивизион), not the Russian word that sounds like battalion (батальон). However, the English equivalent to division in Russian is called diviziya (дивизия), which is a much larger military unit.¹⁴

¹¹ <http://eng.mil.ru/en/structure/okruga/west/history.htm>
see also: http://en.wikipedia.org/wiki/Western_Military_District

¹² http://web.archive.org/web/20050309013355/http://www.kommersant.ru/k-vlast/get_page.asp?page_id=2005769-22.htm
see also: http://en.wikipedia.org/wiki/Moscow_Military_District

Image created by Noclador at Wiki Commons:
http://commons.wikimedia.org/wiki/File:Russian_Ground_Forces_-_Moscow_Military_District_Structure.png

¹³ <http://pvo-lenwo.ru/zapvo2008.doc>

see also: http://en.wikipedia.org/wiki/20th_Guards_Army

¹⁴ <http://www.nato.int/docu/other/ru/2005/050715/Database.pdf>

see also: <http://ru.wikipedia.org/wiki/Батальон>

see also: http://ru.wikipedia.org/wiki/Дивизион_ПВО

see also: <http://ru.wikipedia.org/wiki/Дивизия>

A complete Buk-M1 (and later generation Buk-M1-2) system consists of 11 vehicles: one command vehicle or command post (9S470M1), one Snow Drift target acquisition radar or target detection station (9S18M1 Kupol-M1; NATO designation Snow Drift), three transporter erector launchers (TEL) or missile loaders (9A39M1), and six transporter erector launcher and radar (TELAR) vehicles or missile launchers (9A310M1).¹⁵ Each battery typically consists of two Buk missile launchers and a Buk missile loader. Each battalion is assigned a command vehicle and a Snow Drift radar vehicle.

Most videos and images from Russian social media of the 53rd Brigade show that vehicles in a Buk-M1 system display three numbers on the side, beginning with a 1, 2, or 3. The last digit of a missile launcher is 1 or 2, while the last digit of a missile loader is 3. These numbers serve as unit designations. The first digit indicates the battalion to which the vehicle belongs, the second digit indicates the battery, and the last digit indicates the specific Buk unit/vehicle. For example, a Buk missile launcher numbered 312 belongs to the 3rd Battalion, 1st Battery, and is the second Buk missile launcher in the system. The two exceptions are the command vehicle, numbered x00, and the Snow Drift radar, numbered x01, where 'x' indicates the battalion to which these vehicles belong. Other air defense brigades with Buk-M1 systems use this number structure as well, although usually with five to six battalions (older images of the 53rd Anti-Aircraft Missile Brigade show this brigade also used to have at least five battalions).



Left: Buk-M1 missile launcher 132; middle: Buk-M1 missile launcher 231; right: Buk-M1 missile loader 313.

Other information provides the number of personnel necessary for each vehicle. These sources show that the number of crew members needed to operate a complete Buk-M1 system are six command vehicle operators, three radar vehicle operators, three missile loader operators, and four missile launcher operators (usually two officers, one operator, and one driver).¹⁶ Another source mentions three crew members and seven passengers for a BTR-80, an armored personnel carrier, visible on several photographs and videos as support vehicle in battalions of the 53rd Anti-Aircraft Missile Brigade.¹⁷

¹⁵ <http://pvo.guns.ru/buk/buk.htm>
<http://rbase.new-factoria.ru/missile/wobb/bukm1/bukm1.shtml>
http://rbase.new-factoria.ru/missile/wobb/bukm1_2/bukm1_2.shtml
http://www.niip.ru/index.php?option=com_content&view=article&id=16:-1-1-2r&catid=9:2011-07-06-06-33-50&Itemid=9
see also: http://en.wikipedia.org/wiki/Buk_missile_system

¹⁶ http://vpk.name/news/114383_bez_sledov_i_svidetelei.html
<http://rbase.new-factoria.ru/missile/wobb/buk/buk.shtml>

¹⁷ <http://www.amz.ru/produksiya/btr-80>
<http://wartools.ru/btr/btr-80>
see also: <http://en.wikipedia.org/wiki/BTR-80>

Based on several open sources mentioned above, the organizational structure of the 53rd Anti-Aircraft Missile Brigade appears to be organized as follows:¹⁸

	Combat Weapons			Combat Weapons				
Brigade	1st Battalion		Crew	No.	1st Battalion - 1st Battery		Crew	No.
	Command post (CP) 9S470M1-2		6	100	Missile launcher with radar (TELAR) 9A310M1-2		4	111
	Snow Drift radar (Kupol) 9S18M1-1		3	101	Missile launcher with radar (TELAR) 9A310M1-2		4	112
	BTR 80		3 + 7	993	Missile launcher with crane (TEL) 9A39M1		3	113
Hardware	Hardware System			Combat Weapons				
Mobile automated control and test station ACIS 9V930M-1	Car maintenance (MTO) 9V884M1				1st Battalion - 2nd Battery		Crew	No.
	Workshop maintenance MTO-ATG-M1				Missile launcher with radar (TELAR) 9A310M1-2		4	121
	Car repair and maintenance (MRTO)				Missile launcher with radar (TELAR) 9A310M1-2		4	122
	Transport machines for Missiles (TM) 9T243		8	Missiles	Missile launcher with crane (TEL) 9A39M1		3	123
	Transport machines for Missiles (TM) 9T243		8	Missiles	Combat Weapons			
	Transport machines for Missiles (TM) 9T243		8	Missiles	1st Battalion - 3rd Battery		Crew	No.
	Transport machines for Missiles (TM) 9T243		8	Missiles	Missile launcher with radar (TELAR) 9A310M1-2		4	131
	Compressor station UKS - 400V-P4M				Missile launcher with radar (TELAR) 9A310M1-2		4	132
	Mobile power PES - 100-T / 230-B / 400 A1RK1				Missile launcher with crane (TEL) 9A39M1		3	133
	Combat Weapons			Combat Weapons				
2nd Battalion		Crew	No.	2nd Battalion - 1st Battery		Crew	No.	
Command post (CP) 9S470M1-2		6	200	Missile launcher with radar (TELAR) 9A310M1-2		4	211	
Snow Drift radar (Kupol) 9S18M1-1		3	201	Missile launcher with radar (TELAR) 9A310M1-2		4	212	
BTR 80		3 + 7		Missile launcher with crane (TEL) 9A39M1		3	213	
Hardware System			Combat Weapons					
Car maintenance (MTO) 9V884M1				2nd Battalion - 2nd Battery		Crew	No.	
Workshop maintenance MTO-ATG-M1				Missile launcher with radar (TELAR) 9A310M1-2		4	221	
Car repair and maintenance (MRTO)				Missile launcher with radar (TELAR) 9A310M1-2		4	222	
Transport machines for Missiles (TM) 9T243		8	Missiles	Missile launcher with crane (TEL) 9A39M1		3	223	
Transport machines for Missiles (TM) 9T243		8	Missiles	Combat Weapons				
Transport machines for Missiles (TM) 9T243		8	Missiles	2nd Battalion - 3rd Battery		Crew	No.	
Transport machines for Missiles (TM) 9T243		8	Missiles	Missile launcher with radar (TELAR) 9A310M1-2		4	231	
Compressor station UKS - 400V-P4M				Missile launcher with radar (TELAR) 9A310M1-2		4	232	
Mobile power PES - 100-T / 230-B / 400 A1RK1				Missile launcher with crane (TEL) 9A39M1		3	233	
Combat Weapons			Combat Weapons					
3rd Battalion		Crew	No.	3rd Battalion - 1st Battery		Crew	No.	
Command post (CP) 9S470M1-2		6	300	Missile launcher with radar (TELAR) 9A310M1-2		4	311	
Snow Drift radar (Kupol) 9S18M1-1		3	301	Missile launcher with radar (TELAR) 9A310M1-2		4	312	
BTR 80		3 + 7		Missile launcher with crane (TEL) 9A39M1		3	313	
Hardware System			Combat Weapons					
Car maintenance (MTO) 9V884M1				3rd Battalion - 2nd Battery		Crew	No.	
Workshop maintenance MTO-ATG-M1				Missile launcher with radar (TELAR) 9A310M1-2		4	321	
Car repair and maintenance (MRTO)				Missile launcher with radar (TELAR) 9A310M1-2		4	322	
Transport machines for Missiles (TM) 9T243		8	Missiles	Missile launcher with crane (TEL) 9A39M1		3	323	
Transport machines for Missiles (TM) 9T243		8	Missiles	Combat Weapons				
Transport machines for Missiles (TM) 9T243		8	Missiles	3rd Battalion - 3rd Battery		Crew	No.	
Transport machines for Missiles (TM) 9T243		8	Missiles	Missile launcher with radar (TELAR) 9A310M1-2		4	331	
Compressor station UKS - 400V-P4M;				Missile launcher with radar (TELAR) 9A310M1-2		4	332	
Mobile power PES - 100-T / 230-B / 400 A1RK1				Missile launcher with crane (TEL) 9A39M1		3	333	

Organizational structure of the 53rd Anti-Aircraft Missile Brigade.

¹⁸ A photograph uploaded by a 53rd Brigade soldier indicates that the 53rd Brigade replaced the Buk-M1 system by a Buk-M1-2 system in or before 2010.

To identify soldiers of the 53rd Anti-Aircraft Missile Brigade, the Bellingcat team used photos of badges, patches, emblems, other symbols visible on the soldiers' uniforms as well as flags and other distinguishing objects in order to determine in which unit a soldier was or is currently serving. These symbols are critical in differentiating soldiers of the 53rd Anti-Aircraft Missile Brigade from soldiers in other units (e.g., 448th Missile Brigade). The unit patch – visible on the right arm sleeve of the uniform – is unique to the 53rd Anti-Aircraft Missile Brigade, displaying a cannon intersected diagonally by three arrows, a medieval crown in the middle, and two flails on the side.¹⁹



Soldiers of the 53rd Anti-Aircraft Missile Brigade wearing a unique unit patch on the right arm. The patch on the left arm is a general emblem of the Russian army.



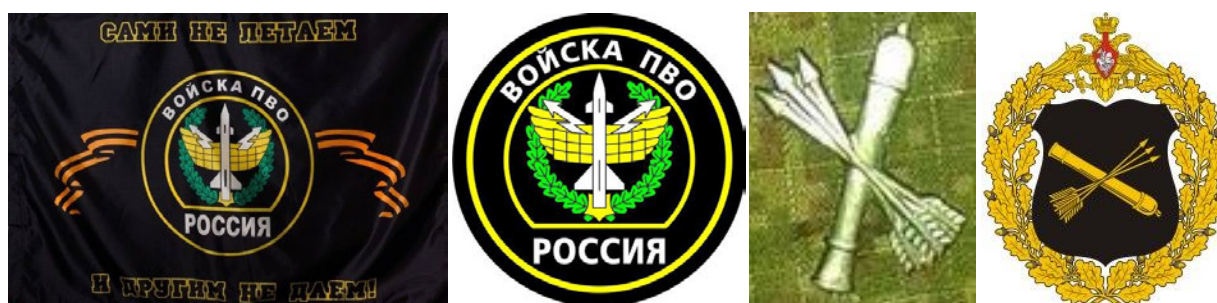
Left: symbol of the 53rd Anti-Aircraft Missile Brigade (on a uniform and a clearer depiction found on a website).
Right: symbol of the Russian Armed Forces (on a uniform and a clearer depiction found on a website).²⁰

¹⁹ <http://ru-chevron.livejournal.com/33039.html> (Near 24 on the second list)

²⁰ http://www.promvishivka.ru/voennaya_forma.html



Left: a flag with the symbol of the 53rd Anti-Aircraft Missile Brigade.
 Middle and right: modern insignia of the 53rd Anti-Aircraft Missile Brigade.



General air defense symbols and badges, left and middle left: flag and symbol²¹ of the PVO (ПВО), which stands for 'Air Defense' (Противовоздушная оборона);²² with the phrase "we ourselves don't fly and we won't let others" (сами не летаем и другим не даём); middle right and right: badge of the Air Defense²³ from a 53rd Anti-Aircraft Missile Brigade commander and large emblem of the Air Defense.²⁴

²¹ <http://geraldika.ru/symbols/12091>

²² <http://structure.mil.ru/structure/forces/ground/structure/vpvo.htm>
 see also: http://ru.wikipedia.org/wiki/Противовоздушная_оборона

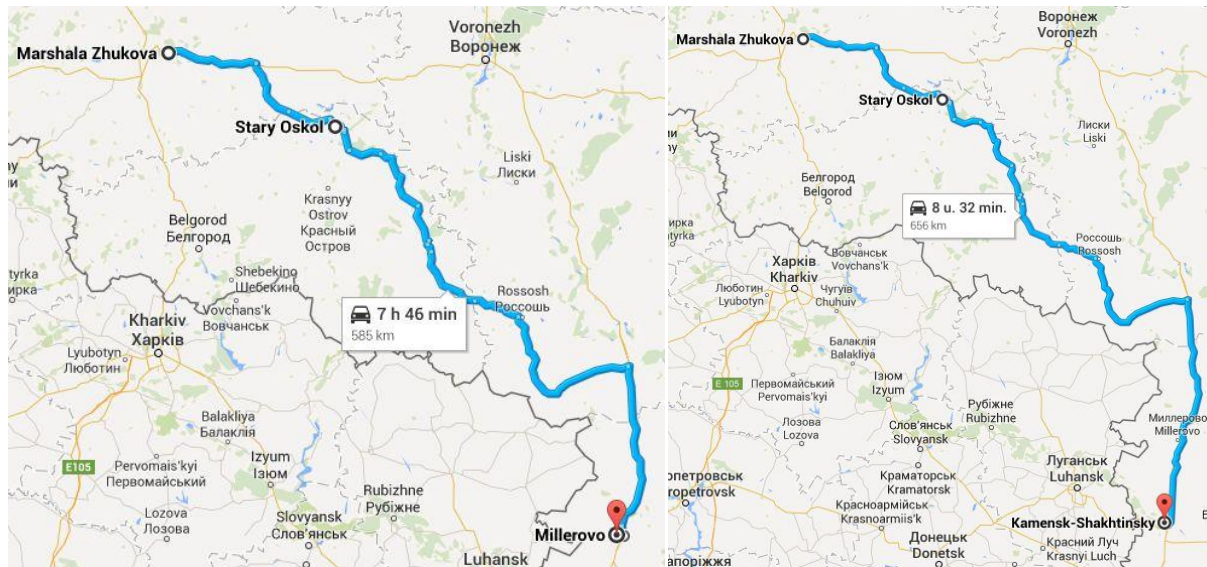
²³ http://www.voentorga.ru/catalog/znaki_petlichnye/emblema_znak_petlichnaya_petlitsa_pvo_nov_obr_zoloto_plastikovaya_2102194

²⁴ http://www.goldenkorona.ru/simv_vs_Russia_4_39.html
http://forum.guns.ru/forum_light_message/71/289756-m6508511.html

Section Two: Mobilization of the 53rd Anti-Aircraft Missile Brigade

In two previous reports (*Origin of the Separatists' Buk*²⁵ and *Tracking the Trailers: Investigation of MH17 Buk's Russian Convoy*),²⁶ the Bellingcat team described two separate convoys filmed and photographed in Russia. The first convoy occurred from 23 to 25 June 2014 and the second from 19 to 21 July 2014. The routes of the convoys were partly similar – both convoys originated from the military base of the 53rd Anti-Aircraft Missile Brigade in Marshala Zhukova – but the June 2014 convoy was last filmed on a road to Millerovo, while the July 2014 convoy was last filmed and photographed on a road leading to an area southwest of Kamensk-Shakhtinsky.

Both convoys transported Buk-M1 missile launchers (among other military vehicles); however, the 23-25 June 2014 convoy is particularly remarkable because it was transporting a Buk-M1 missile launcher bearing a striking resemblance to the Buk-M1 missile launcher spotted in Ukraine on 17 July 2014, just a few hours before the downing of MH17. *Origin of the Separatist' Buk* demonstrates the link between the June and July 2014 Buk convoys and the 53rd Anti-Aircraft Missile Brigade. It also shows the link between a Buk-M1 missile launcher in the 23-25 June 2014 convoy and the Buk-M1 missile launcher connected to the downing of MH17 seen in Ukraine. *Tracking the Trailers* shows the link between the June and July 2014 Buk convoys and two different transport units and thoroughly details the routes and destinations of these convoys.



Left: likely route of the 23-25 June 2014 Buk convoy; right: likely route of the 19-21 July 2014 Buk convoy.

This section investigates the mobilization and deployment of the 53rd Anti-Aircraft Missile Brigade in the summer of 2014, shows the relationship between the Buk-M1 vehicles and specific units in the 53rd Anti-Aircraft Missile Brigade, and examines the 23-25 June 2014 Buk convoy with an attempt to estimate the number of soldiers involved in that convoy.

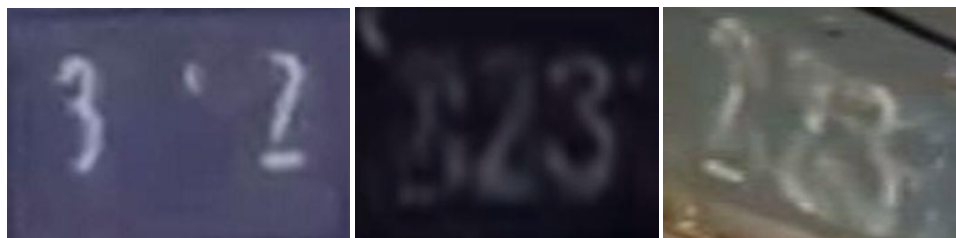
²⁵ <http://www.bellingcat.com/news/uk-and-europe/2014/11/08/origin-of-the-separatists-buk-a-bellingcat-investigation>

²⁶ <http://www.bellingcat.com/news/uk-and-europe/2015/05/13/tracking-the-trailers-investigation-of-mh17-buks-russian-convoy>

The 23-25 June 2014 Buk Convoy Vehicles

As described in Section One, most of the Buk-M1 vehicles visible in the 23-25 June 2014 convoy have numbers on the side serving as unit designation, where the first digit represents the battalion, the second the battery, and the third the specific Buk unit. Each battalion of the 53rd Anti-Aircraft Missile Brigade has six missile launchers (TELAR), three missile loaders (TEL), one Snow Drift radar (Kupol-M1), and one command vehicle. Most Buk-M1 vehicles in the June 2014 convoy have a unit designation starting with 2, meaning these vehicles belong to the 2nd Battalion.

However, the unit designation of at least three Buk-M1 system vehicles do not start with 2. The Buk-M1 missile launcher linked to the downing of MH17 is numbered 3x2 (where 'x' is a scuffed, unreadable number), a Buk-M1 missile loader is numbered x23 ('x' again a scuffed, unreadable number), and one Buk-M1 missile loader has no number at all. We know that Buk x23's unit designation is likely not 2, because videos of the 23-25 June 2014 convoy show another Buk-M1 missile loader numbered 223. However, a closer look at the first digit shows that likely a 2 has been painted over a different number, possibly a 3. The vehicles with 3 as their first digit presumably belong to the 3rd Battalion, although it is noteworthy that both vehicles show partly scuffed numbers, because none of the other Buk unit vehicles of the June 2014 convoy had scuffed numbers. Thus, the two vehicles' unit designations had not been repainted for some time, possibly indicating that they were not used in training missions for some time as well.



Left: unit designation of Buk 3x2; middle and right: unit designation of Buk x23, the image far right shows most clear that likely a 2 has been painted over a different number, possibly a 3.

Videos of the June 2014 Buk convoy also show that it contains a complete Buk-M1 system, consisting of six missile launchers, three missile loaders, one Snow Drift radar, and one command vehicle, as described above. The missile launchers in the convoy had the following numbers: 211, 212, 221, 231, 232 and 3x2. Missile launcher 222 is absent, but it is compensated for by the missile launcher with a partly scuffed number (3x2). There was only one numbered missile loader in the convoy (223), but the missing missile loaders 213 and 233 were compensated for by the missile loader with a partly scuffed number (x23) and the missile loader without a number. The Snow Drift radar is numbered 201 and the command vehicle 200.

A video filmed in Alexeyevka shows nearly all of the Buk-M1 vehicles in the June 2014 Buk convoy, where two parts of the convoy that were previously separated at some point merged back together into a single convoy.²⁷ The only vehicle belonging to the Buk-M1 system not in the video is the command vehicle numbered 200; however, this vehicle is visible in a second video filmed from a slightly different location, where it is seen making a U-turn and driving back in the direction from which it originally came.²⁸

²⁷ <http://bellingscat-vehicles.silk.co/page/0020-Alexeyevka%3A-Buk-convoy-turning-and-merging-1>

²⁸ <http://bellingscat-vehicles.silk.co/page/0021-Alexeyevka%3A-Buk-convoy-turning-and-merging-2>



Left: Buk-M1 missile launcher 211; middle: Buk-M1 missile launcher 212; right: Buk-M1 missile loader x23 replacing 213.²⁹



Left: Buk-M1 missile launcher 221; middle: Buk-M1 missile launcher 3x2 replacing 222; right: Buk-M1 missile loader 223.



Left: Buk-M1 missile launcher 231; middle: Buk-M1 missile launcher 232.
Right: Buk-M1 missile loader (unnumbered) replacing 233.³⁰



Left: Buk-M1 command vehicle 200; right: Buk-M1 Snow Drift radar 201.

²⁹ Buk missile loader x23 could also have been the replacement of Buk missile loader 233.

³⁰ Buk missile loader (unnumbered) could also have been the replacement of Buk missile loader 213.

As these videos show a complete Buk-M1 system and most Buk unit vehicles originated from the 2nd Battalion of the 53rd Brigade, likely only soldiers and officers of the 2nd Battalion were involved in this convoy. Therefore, it is important to know the number of soldiers involved in the convoy, as this number might confirm that the convoy only transported vehicles, soldiers and officers of the 2nd Battalion.

Beside the fact that these videos show a complete Buk-M1 system, the type and number of all of the vehicles seen in videos of the June 2014 Buk convoy serve to indicate the likely number of individuals involved in the convoy. In addition to eleven KamAZ 65225 trucks hauling the Buk-M1 vehicles,³¹ other trucks can be seen in the convoy: four KrAZ 255B trucks transporting missiles (seen as covered cargo),³² five Ural 4320 trucks,³³ one Ural 4320 truck with a crane, five Gaz-66 trucks,³⁴ fourteen KamAZ 5350 trucks,³⁵ two ZIL 131 trucks,³⁶ one UAZ 452 military ambulance,³⁷ and one PAZ 3205 bus.³⁸

Since the Buk-M1 vehicles were transported by a separate transport unit (the 147th Automobile Battalion), as described in *Tracking the Trailers*, it is not likely that soldiers of the 53rd Anti-Aircraft Missile Brigade were traveling as passengers in the KamAZ 65225 trucks. Information provided in several sources referenced throughout this report state that most trucks have two extra seats in the cabin; notable exceptions are the Gaz-66 truck and the UAZ 452 military ambulance – each having just one extra seat – and the PAZ 3205 bus, which has seats in the bus behind the driver instead of next to the driver. Apart from the PAZ 3205 bus, which has a single accordion door and is capable of transporting a maximum of 28 seated passengers, there are just a few other vehicles able to transport soldiers in the back of the vehicle, although it is not clear exactly how many. The Gaz-66 can transport 21 soldiers in the back, but from video evidence, we see just a few of those trucks with open windows (one might expect more to be opened in June when 21 soldiers are inside). The two videos that show the vehicles of the convoy most clearly were filmed in Alexeyevka (described on the previous page) and near Raskhovets.³⁹ These videos show passengers next to the drivers; no passengers are visible in the eleven KamAZ 65225 trucks hauling the Buk-M1 system vehicles, but one or two passengers are visible next to the drivers in the other vehicles of the convoy.

³¹ <http://www.kamaz.ru/en/production/serial/tractor-units/kamaz-65225-43>

see also: <http://ru.wikipedia.org/wiki/KAMAZ-65225>

see also: <http://en.wikipedia.org/wiki/Kamaz>

³² http://autoinf.org/car.php?car_id=581

see also: <http://ru.wikipedia.org/wiki/КрАЗ-255Б>

³³ <http://www.uralaz.ru>

see also: <http://ru.wikipedia.org/wiki/Урал-4320>

³⁴ <http://www.sever66.ru/podrazdel/podrazdel2>

see also: <http://ru.wikipedia.org/wiki/ГАЗ-66>

³⁵ <http://www.kamaz.ru/en/production/serial/high-sided-trucks/kamaz-5350-42>

see also: http://ru.wikipedia.org/wiki/KAMAZ_5350

³⁶ http://www.primeportal.net/trucks/egor_kalmykov/zil-131

see also: <http://ru.wikipedia.org/wiki/ЗИЛ-131>

³⁷ <http://www.uaz.ru>

see also: <http://ru.wikipedia.org/wiki/УАЗ-452>

³⁸ http://avto-russia.ru/autos/paz/paz_3205.html

see also: <http://ru.wikipedia.org/wiki/ПАЗ-3205>

³⁹ <http://bellingscat-vehicles.silk.co/page/0019-Raskhovets%3A-Buk-convoy-on-the-highway>

The table below presents an estimate of the number of people visible on the seats next to the drivers in the videos of the 23-25 June 2014 Buk convoy.

Vehicle Type	Number of Vehicles	Number of Drivers	Maximum Number of Passengers	Number of Passengers Visible
KamAZ truck 65225 (trailer with Buk vehicles)	11	11	22	0
Ural 4320 truck with KS-2573 crane	1	1	2	1
KrAZ 255B truck	4	4	8	3
KamAZ 5350 truck (with or without trailer)	14	14	28 + 21 (one vehicle can transport 21 passengers)	24
GAZ-66 truck	5	5	10 + 21 (one vehicle can transport 21 passengers in the back)	0
ZIL 131 truck	2	2	4	0
Ural 4320 truck	5	5	10	2
Ural 4320 truck connected to a KamAZ 5350 truck	1	0	0	0
UAZ 452 military ambulance	1	1	1	1
PAZ 3205 bus	1	1	28	28 (full bus)
	45	44	155	59

There are 44 drivers in the convoy, the same number of vehicles in the convoy minus a Ural 4320 truck connected to another truck. Based on the number of passengers visible next to the drivers and in the bus, the estimated minimum number of soldiers transported by this convoy would be 59 (but assuming that the PAZ 3205 bus was full). The estimated maximum number of soldiers transported by the convoy would be 155, including the Gaz-66 and KamAZ 5350 trucks, assuming both contained 21 soldiers. The average estimated number of soldiers then would be 107. Additionally, including the drivers of the trucks – apart from the drivers of the KamAZ 65225 trucks, who were not a part of the 53rd Brigade but the 147th Automobile Battalion yields 140 soldiers and soldier-drivers (33 added to 107).

Apart from these estimations, the Bellingcat team also found roughly 80 soldiers in the 2nd Battalion of the 53rd Anti-Aircraft Missile Brigade who served in 2014 (further described in Section Three). This figure is consistent with approximately the same number of soldiers travelling in the 23-25 June 2014 Buk convoy.

One noteworthy video, uploaded 19 July 2014, shows a Buk missile loader that was seen in the 23-25 June 2014 with the unit designation x23 ('x' being a partially scuffed number).⁴⁰ In this video, only Buk x23 is visible, along with a police car (but no other Buk unit vehicles), driving through Kamensk-Shakhtinsky in the direction of Donetsk, Russia. It is not known whether the video was also filmed on 19 July 2014 or earlier, but if it was filmed on 18 or 19 July 2014, it is quite remarkable that this Buk missile loader was driving toward Donetsk, Russia, as it is the same area in which Buk 3x2 (which very likely downed MH17) arrived from Ukraine on 18 July 2014, as indicated by the intercepted phone calls published by the Joint Investigation Team.⁴¹

One could speculate that Buk missile loader x23 headed towards the border to unload the remaining three missiles off of Buk 3x2. In the 23-25 June 2014 Buk convoy, the Buk missile launchers were not loaded with missiles; instead, the missiles were stored on the same Buk missile loader x23. Since the other Buk missile launchers of the 2nd Battalion were likely deployed in an area near Millerovo (as described later in this section), and the Buk vehicles of the 1st Battalion were transported a few days later through Kamensk-Shakhtinsky (also described later in this section). An alternative reason as to why Buk missile loader x23 was driving through Kamensk-Shakhtinsky on or just before 19 July 2014 is not clear; apart from Buk 3x2 there were no other (known) Buk vehicles in the area at or just before 19 July 2014. Buk x23 is visible in the 19 July 2014 video transporting missiles, which might contradict the speculation above that Buk x23 was sent to unload the remaining three missiles from Buk 3x2, but a Buk missile loader can store eight missiles in total. Thus, the missile loader likely would have been able to load additional missiles.⁴²



Buk missile loader x23 driving through Kamensk-Shakhtinsky in the direction of Donetsk, Russia, uploaded 19 July 2014.

⁴⁰ <http://bellingscat-vehicles.silk.co/page/0150-Kamensk-Shakhtinsky%3A-isolated-Buk-TEL>

⁴¹ <http://youtu.be/olQNpTxSnTo?t=436>

⁴² http://pyo.guns.ru/buk/buk_14.htm
<http://rbase.new-factoria.ru/missile/wobb/buk/buk.shtml>

The 19-21 July 2014 Buk Convoy Vehicles

The 1st Battalion of the 53rd Anti-Aircraft Missile Brigade transported all or nearly all of its Buk-M1 vehicles towards the Russia-Ukraine border from 19 to 21 July 2014. One video shows 10 Buk-M1 vehicles - one Buk short of a complete system. It is possible that the absent vehicle was present in the convoy, but just not visible in any of the found videos. In the videos, most Buk-M1 vehicles are covered with a tarp, except for three missile launchers (numbered 112, 121, and 122), which are sometimes seen without a tarp.⁴³

Since the unit designations of the three visible Buk-M1 missile launchers of this convoy all start with number 1, it is a logical assumption to conclude that the other covered Buk-M1 vehicles have a unit designation starting with 1 as well. Therefore, the videos of the 19-21 July 2014 Buk convoy likely show a nearly complete Buk-M1 system belonging to the 1st Battalion of the 53rd Anti-Aircraft Missile Brigade.

While it may seem remarkable that this convoy was on its way to the border just two days after the downing of MH17, there is no relation between this convoy and the downing. It is also noteworthy that most of the vehicles were covered with tarps; not a single Buk was covered in the 23-25 June 2014 convoy. It is also unusual that not all of the Buk-M1 missile launchers were covered with a tarp, as it might be expected that either all or none of the Bucs would be covered.



Left: Buk missile launcher 112; right: Buk missile launcher 121.



Buk missile launcher 122.

⁴³ <http://bellingcat-vehicles.silk.co/page/0201-Fedoseevka%3A-Buk-convoy-on-P189-road-2>
<http://bellingcat-vehicles.silk.co/page/0204-Stary-Oskol%3A-Buk-convoy-in-the-center-before-traffic-light>
<http://bellingcat-vehicles.silk.co/page/0213-Kamensk-Shakhtinsky%3A-Buk-convoy-driving-to-the-border>

Satellite imagery from 18 July 2014 shows some vehicles just outside the 53rd Anti-Aircraft Missile Brigade base.⁴⁴ These vehicles resemble the KamAZ trucks with trailers filmed hauling Buk vehicles covered with tarps. It might seem odd to see these vehicles just outside of Marshala Zhukova, a small village to the east of the military base where the 53rd Anti-Aircraft Missile Brigade is located. However, the village Marshala Zhukova is mainly a military garrison with apartments for soldiers, officers, and their families.⁴⁵ Visible vehicle tracks lead across the road separating Marshala Zhukova from the military base, and satellite imagery from 2015 shows that these tracks lead to the 53rd Anti-Aircraft Missile Brigade base. In the satellite imagery of 18 July 2014, exactly 10 vehicles are visible, the same number of vehicles in the 19-21 July 2014 Buk convoy. However, some of the vehicles are not on trailers and might be different vehicles that were not part of the convoy.



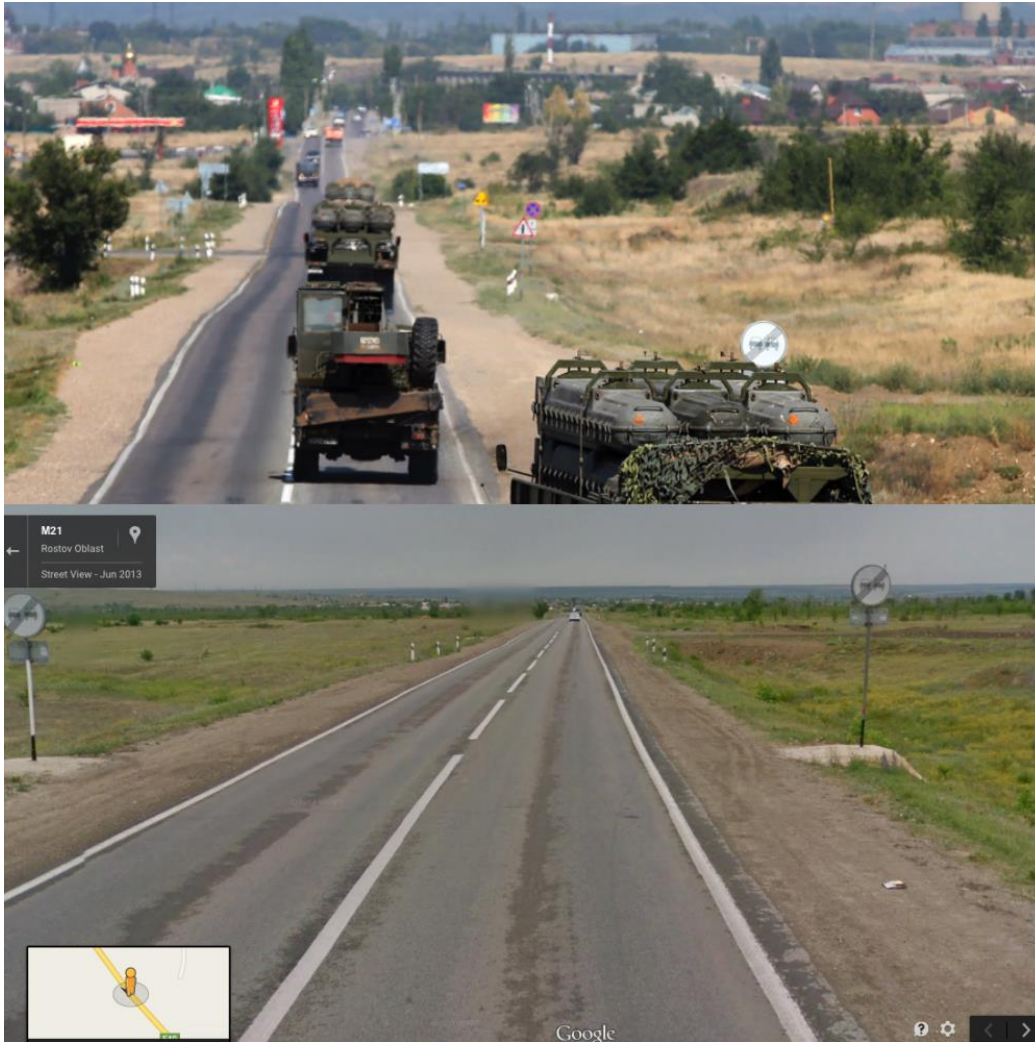
Left: Satellite imagery of 18 July 2014, showing seven vehicles that resemble the vehicles filmed in a convoy of Bucs covered by tarps on trailers hauled by KamAZ trucks and three other vehicles (in red circles); Right: Zoomed part of the 18 July 2014 satellite imagery and comparison between one of the visible vehicles and an image of a KamAZ truck hauling a trailer with a covered Buk (the image is a screenshot of one of the 19-21 July 2014 Buk convoy videos); the square on the left down side shows trails leading across the road.

⁴⁴ <http://www.google.com/maps/@51.7182761,36.3278558,702m/data=!3m1!1e3>

⁴⁵ http://wikimapia.org/3557281/ru/Имени_Маршала_Жукова

The 16 August 2014 Missile Transport

On 16 August 2014, Reuters published an article featuring two photographs of several military vehicles transporting Buk-M1 missile containers.⁴⁶ Neither the photographs nor the article reveal whether the containers are filled with missiles or empty. According to the article, the images were taken on 16 August 2014 on a road outside Kamensk-Shakhtinsky in the Rostov Oblast. The Bellingcat team was able to verify that the photos were indeed taken near Kamensk-Shakhtinsky on the M21 road southwest of the town.⁴⁷ Due to the powerful zoom that the photographer was using, the perspective of the photo is distorted, and therefore many of the landmarks and signs in the photos appear much closer than they actually are.



Above: Reuters' 16 August 2014 photograph of trucks transporting missile containers and a truck with a crane;
Below: M21 road visible on the photograph, near Kamensk-Shakhtinsky.

⁴⁶ <http://uk.reuters.com/article/2014/08/16/uk-ukraine-crisis-west-idUKKBN0GG06M20140816>

⁴⁷ <http://www.google.com/maps/@48.280991,40.263288,3a,75y,321.5h,81.79t/data=!3m6!1e1!3m4!1sV91ue8jmEfiKTGy76oVMp-A!2e0!7i13312!8i6656>
<http://www.google.com/maps/@48.2926149,40.2505503,3a,90y,316.57h,82.6t/data=!3m6!1e1!3m4!1s!BpEOo5by1V7jd-dcHIH-gl!2e0!7i13312!8i6656>

In addition to the location, Bellingcat was also able to confirm that these vehicles belong to the 53rd Anti-Aircraft Missile Brigade; two license plates on the vehicles visible in one of Reuters' 16 August 2014 photographs match license plates of vehicles in the 23-25 June 2014 Buk convoy. One of the KrAZ 255B trucks transporting missiles has a license plate 8564 HC 50 and the Ural 4320 truck with the KS-2573 crane has a license plate 0502 HC 50. Both vehicles were also part of the June 2014 Buk convoy.⁴⁸ The license plate of the other KrAZ 255B truck, 8568 HC 50, matches the license plate of a similar truck found in a 2012 album of a 53rd Brigade soldier.⁴⁹



Left: KrAZ 255B truck with license 8564 HC 50 transporting missile containers from Reuters first 16 August 2014 picture; Right: KrAZ 255B truck with license 8564 HC 50 probably transporting missiles covered under a tarp from the 23-25 June 2014 Buk convoy, video uploaded 24 June 2014.



Left: KrAZ 255B truck with license 8568 HC 50 transporting missile containers from Reuters' second 16 August 2014 picture; Right: KrAZ 255B truck with license 8568 HC 50, uploaded by a 53rd Brigade soldier, 19 December 2012.

⁴⁸ <http://bellingcat-vehicles.silk.co/page/0019-Raskhovets%3A-Buk-convoy-on-the-highway>
<http://youtu.be/aLtzYEHolmg?t=76>
<http://bellingcat-vehicles.silk.co/page/0502-HC-50>

⁴⁹ <http://archive.is/EffAK>



Left: Ural 4320 truck with KS-2573 crane with license plate 0502 HC 50 from one of Reuters' 16 August 2014 photographs;
 Right: Ural 4320 truck with KS-2573 crane with license plate 0502 HC 50 from the 23-25 June 2014 Buk convoy, video uploaded 23 June 2014.

Bellingcat also established that the missiles transported were 9M38M1 missiles for a Buk-M1 or Buk-M1-2 missile launcher.⁵⁰ Almaz-Antey, the manufacturer of the Buk systems and missiles, claims these missiles have not been in production since 1999 and that all 9M38M1 missiles were passed on to international clients.⁵¹ The Bellingcat team, however, has found numerous recent images and videos that clearly show 9M38M1 missiles, among them a video of the 23-25 June 2014 Buk convoy, where a Buk-M1 missile loader can be seen transporting this type of missile.⁵²



Above and below: zoomed-in images of the containers with missiles from one of Reuters' 16 August 2014 photographs shows the transport of 9M38M1 missiles for a Buk-M1 or Buk-M1-2 system.

⁵⁰ <http://www.bellingcat.com/news/uk-and-europe/2015/06/03/evidence-the-russian-military-supplied-the-type-of-missile-used-to-shoot-down-mh17/>

<http://rbase.new-factoria.ru/missile/wobb/bukm1/bukm1.shtml>
http://rbase.new-factoria.ru/missile/wobb/bukm1_2/bukm1_2.shtml

see also: http://en.wikipedia.org/wiki/Buk_missile_system#Comparison

⁵¹ <http://www.rt.com/news/264421-buk-missile-manufacturer-investigation/>

<http://www.almaz-antey.ru/about/press/news/1975.html>

⁵² <http://youtu.be/OJPxt7XrG6Q?t=77>

Deployment of the 53rd Anti-Aircraft Missile Brigade in the Summer of 2014

As mentioned in the beginning of this section, a previous Bellingcat report (*Tracking the Trailers: Investigation of MH17 Buk's Russian Convoy*)⁵³ describes the routes and destinations of the June and July 2014 Buk convoys. The 23-25 June 2014 Buk convoy was last filmed on a road southeast of Millerovo, about 4.5 kilometers from the center of the town.⁵⁴ The video does not show whether the convoy drives into the town (to do so, it has to turn right at the first crossing), or drives straight ahead, in the direction of the Russia-Ukraine border. As *Tracking the Trailers* describes, there is a strong possibility that the convoy went to the Millerovo military airbase. Satellite imagery of this airbase shows military camps and an increase of military equipment during the summer of 2014, a decrease in 2015, and most of the camps and equipment gone in the summer of 2015.⁵⁵



Left: a part of Millerovo military airbase, 29 September 2014; right: the same area, 24 August 2015.

As *Tracking the Trailers* points out, the Bucs in the June 2014 Buk convoy were likely meant for deployment along the Russia-Ukraine border, therefore the Millerovo military airbase was likely not the final destination. Photographs of Buk missile launchers geolocated near Kuybyshevo and Voloshino, two towns close the Russia-Ukraine border (see *Tracking the Trailers*) support this theory. Section Three shows photographs of 2nd Battalion soldiers of the 53rd Anti-Aircraft Missile Brigade in a rural area, some of them geotagged to the west and southwest of Millerovo.

In the autumn of 2015, Google updated its satellite imagery for the rural area southwest of Millerovo. Before that update, most of the area was covered by imagery from May 2014, but the updated imagery of September 2014 revealed several remarkable details. An area with military vehicles is visible between two parts of a small forest near a village named DUBY.⁵⁶ A close view into the imagery reveals at least one vehicle that resembles a Buk missile launcher, as the visible vehicle seems to have a rotated upper component. More military equipment is visible in the same area, as well as a small military convoy.⁵⁷

⁵³ <http://www.bellingcat.com/news/uk-and-europe/2015/05/13/tracking-the-trailers-investigation-of-mh17-buks-russian-convoy>

⁵⁴ <http://bellingcat-vehicles.silk.co/page/0024-Millerovo%3A-Buk-convoy-on-a-rainy-day>

⁵⁵ <http://www.google.com/maps/@48.9490795,40.2963376,2987m/data=!3m1!1e3>

⁵⁶ <http://www.google.com/maps/@48.6359505,39.8861371,729m/data=!3m1!1e3>

⁵⁷ <http://www.google.com/maps/@48.6317768,39.9071954,748m/data=!3m1!1e3>

<http://www.google.com/maps/@48.6593747,39.88974,377m/data=!3m1!1e3>



Left: military vehicles in an open area between two parts of a small forest near Duby (Rostov Oblast, Russia); Right: four vehicles, possibly Buk missile launchers, one of which seems to have a rotated upper component.



Left: more military equipment near Duby; right: a small military convoy to the north of Duby.

It is worth noting that the location where a Ukrainian AN-26 was shot down and crashed on 14 July 2014 (near the village Davydo-Mykil's'ke, very close to the Russia-Ukraine border)⁵⁸ is just 16 kilometers from the military camp near Duby. It is still unclear what kind of missile downed the AN-26; one of the possibilities seemed to be a Buk missile. However, a recent study published in the Dutch newspaper NRC claims that the AN-26 was downed by an air-to-air missile and not by a Buk missile.⁵⁹

Section Three shows that the 2nd Battalion was deployed in this area for about three months and then returned to Kursk in mid-September 2014. The satellite imagery likely confirms the continued presence of Buk missile launchers on 6 September 2014 and corresponds with the three months that the 2nd Battalion was deployed in this area.

⁵⁸ <http://www.bbc.com/news/world-europe-28299334>

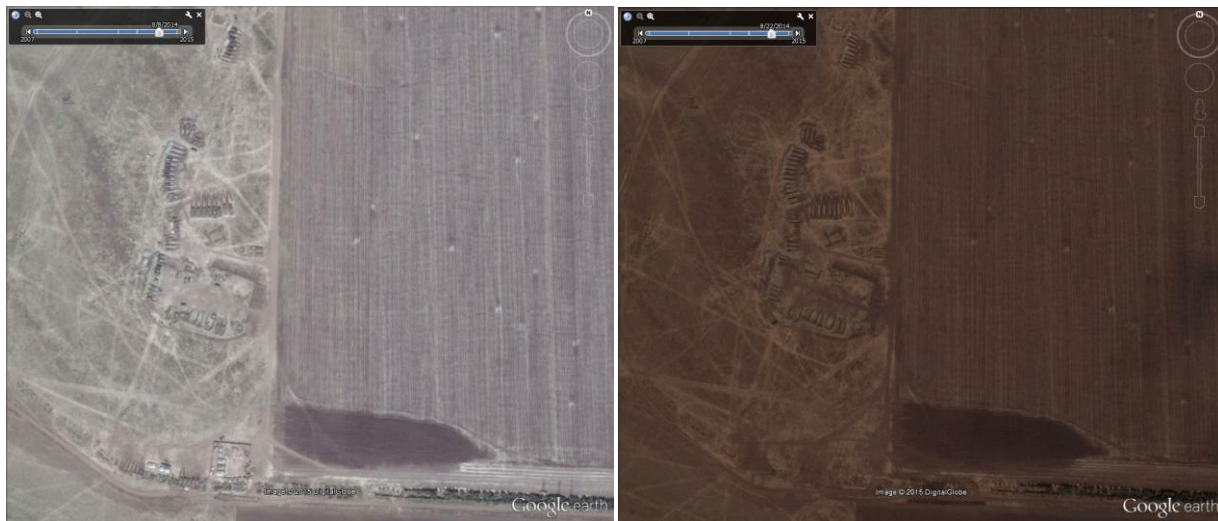
<http://www.google.com/maps/@48.4975936,39.8291918,378m/data=!3m1!1e3>

⁵⁹ <http://www.nrc.nl/handelsblad/2015/11/14/waar-was-de-antonov-toen-de-rus-hem-raakte-1556170>

In addition, the destination of the 19-21 July 2014 Buk convoy also is described in *Tracking the Trailers*. That convoy was last filmed on 21 July 2014 on a road in a southern area of Kamensk-Shakhtinsky, driving in the direction of the Russia-Ukraine border,⁶⁰ and last photographed 21 July 2014 near Volchenskiy, to the southwest of Kamensk-Shakhtinsky.⁶¹

Buk missile loader x23 from the June 2014 Buk convoy was filmed on or just before 19 July 2014 being transported on the same road through the southern part of Kamensk-Shakhtinsky and going in the same direction, as described earlier in this section. While the destination of Buk missile loader x23 is not clear, the destination of the 19-21 July 2014 Buk convoy is likely discernible, as the photograph near Volchenskiy indicates that the road where the convoy was photographed leads to a rural area with only small villages, including Anikin, Berezka, and Uglerodovskiy.⁶²

Satellite imagery from 8 August 2014 shows a few military camps in fields near these villages, where military vehicles are visible inside of pits.⁶³ Satellite imagery from 22 August 2014 shows the vehicles are all gone, but the pits are still there.



Left: military vehicles inside pits, 8 August 2014; right: empty pits, 22 August 2014.

The Buk vehicles are not visible on the satellite images from 8 August 2014 and likely were deployed closer to the Russia-Ukraine border. As Section Three describes, the 1st Battalion was deployed for about a month in the Rostov Oblast and left the area in mid-August, corresponding with the August 2014 satellite imagery. It remains unclear why the 53rd Anti-Aircraft Missile Brigade continued transporting missile containers in the direction of this area on 16 August 2014.

⁶⁰ <http://bellingcat-vehicles.silk.co/page/0213-Kamensk-Shakhtinsky%3A-Buk-convoy-driving-to-the-border>

⁶¹ <http://bellingcat-vehicles.silk.co/page/0214-Kamensk-Shakhtinsky%3A-Buk-on-a-trailer>

⁶² <http://www.google.com/maps/@48.1652878,40.0224236,11773m/data=!3m1!1e3>

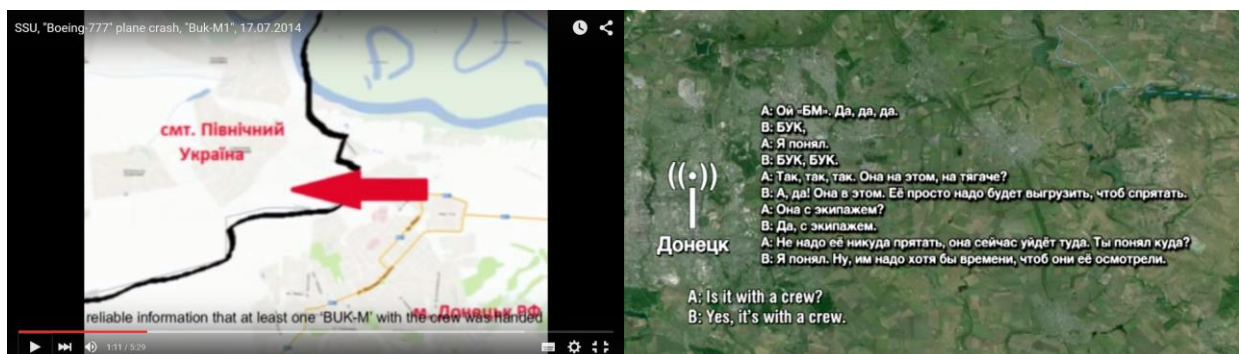
⁶³ <http://www.google.com/maps/@48.1758464,40.0513883,3040m/data=!3m1!1e3>

Section Three: Soldiers of the 53rd Anti-Aircraft Missile Brigade

Introduction

This section describes the results of a deep investigation into the battalions of the 53rd Anti-Aircraft Missile Brigade and soldiers who served in these battalions in 2013 and 2014. The first part provides an overview of soldiers of the 2nd Battalion in 2013, based on two attendance lists and the social network connections among these soldiers on VK. The second part describes the 3rd Battalion in 2014, based on an attendance list and the soldiers' VK connections. The third part gives an overview of several soldiers of the 2nd Battalion in 2014, the first few of whom were found via a forum for mothers and wives of soldiers. Some of these soldiers posted images of the 23-25 June 2014 convoy and of locations near the Russia-Ukraine border on their VK profiles, while images found in albums of soldiers of the 2nd battalion in 2013 and the 3rd Battalion in 2014 do not show any relation to the June or July 2014 Buk convoys.

There is no direct evidence that soldiers or officers of the 53rd Anti-Aircraft Missile Brigade were part of the crew of the Buk-M1 that likely downed MH17 on 17 July 2014; however, there are several indications that a crew was transported together with this Buk-M1 from Russia across the border to Ukraine. A video published by the Security Service of Ukraine (SBU) states (at 1:10) that there is reliable information that at least one Buk-M1 missile launcher was transported with a crew from Russia to Ukraine.⁶⁴ An intercepted phone conversation between two separatists, 'Khmuryi' and 'Buryat,' shown in the same video and partly in a video from the Joint Investigation Team⁶⁵ makes clear that the Buk came with a crew (at 2:02) to Donetsk and crossed the border between Russia and Ukraine driving under its own power (at 2:16). It is possible that a separatist crew was added to the Buk immediately after crossing the border into Ukraine and before driving to Donetsk, and that the person who drove the Buk under its own power across the border went back to Russia after delivering the Buk in Ukraine. This scenario, however, seems unlikely, mainly because a Buk missile launcher is a very sophisticated and expensive weapon and it is very unlikely that Russia would turn it over unsupervised to a group of separatists without having adequate training. According to a high officer of the Russian Air Defense, training is not enough, as the crew also needs adequate experience.⁶⁶



Screenshots of videos from the SBU and the Joint Investigation Team that show a Buk-M1 was delivered in Donetsk with a crew.

⁶⁴ <http://www.youtube.com/watch?v=MVAOTWPmMM4>

⁶⁵ <http://www.youtube.com/watch?v=olQNpTxSnTo>

⁶⁶ http://vpk.name/news/114383_bez_sledov_i_svidetelei.html



Screenshots of an SBU showing that the Buk-M1 crossed the border between Russia and Ukraine under its own power.

Additional information indicating that the crew came from Russia has been provided by journalists with the Associated Press (AP)⁶⁷ and an anonymous witness from Torez, interviewed by John Sweeney from BBC Panorama.⁶⁸

The AP article describes a meeting between AP journalists and the Buk-M1 and crew transported through Snizhne on 17 July 2014. Parts of this article make clear that the uniform of one member of the Buk-M1 crew was different than those of the separatists and that the accent of this man was more typical of Russian citizens than Russian speakers in eastern Ukraine:

Snizhne, Ukraine (AP) — It was lunchtime when a tracked launcher with four SA-11 surface-to-air missiles rolled into town and parked on Karapetyan Street.

It had been a noisy day in this eastern Ukrainian town, residents recounted. Plenty of military equipment was moving through. But still it was hard to miss the bulky missile system, also known as a Buk M-1. It left deep tread marks in the asphalt as it rumbled by in a small convoy.

The vehicles stopped in front of journalists from The Associated Press. A man wearing unfamiliar fatigues, speaking with a distinctive Russian accent, checked to make sure they weren't filming. The convoy then moved on, destination unknown in the heart of eastern Ukraine's pro-Russia rebellion.

AP journalists saw the Buk moving through town at 1:05 p.m. The vehicle, which carried four 18-foot (5.5-meter) missiles, was in a convoy with two civilian cars.

The convoy stopped. A man in sand-colored camouflage without identifying insignia — different from the green camouflage the rebels normally wear — approached the journalists. The man wanted to make sure they had not recorded any images of the missile launcher. Satisfied that they hadn't, the convoy moved on.

⁶⁷ <http://bigstory.ap.org/article/what-happened-day-flight-17-was-downed>

⁶⁸ <http://www.bbc.co.uk/news/world-europe-29109398>

A BBC article by John Sweeney mentions three eyewitnesses who saw the Buk missile launcher in Snizhne on 17 July 2014, stating the Buk crew resembled Russian soldiers and spoke Russian with a Moscow accent:

The eyewitness told the BBC that the crew struck him as Russian soldiers: "Well-disciplined, unlike the rebels, and not wearing the standard Ukrainian camouflage uniform sported by government and rebel troops alike."

They had pure Russian accents. "They say the letter 'g' differently to us," he said.

In eastern Ukraine, most people speak Russian but the BUK crew did not speak Russian with a local accent.

His testimony was confirmed by a second eyewitness, who added that an officer in a military jeep escorting the BUK spoke with a Muscovite accent.

The article contains a video that displays a reconstructed interview of one of the eyewitnesses in a car with John Sweeney. The eyewitness says in the video that "A soldier spoke with a Moscow accent."

The fact that the Buk crew spoke with a Russian or "Moscow" accent does not confirm that the crew consisted of Russian soldiers and/or officers since many separatists and separatist leaders are Russian citizens and speak Russian with a "Moscow" accent too. But taking into account Russia would very likely not hand over such a sophisticated weapon to separatists untrained and inexperienced with the Buk-M1 system, it is likely that the crew consisted or at least partially consisted of Russian soldiers and/or officers.

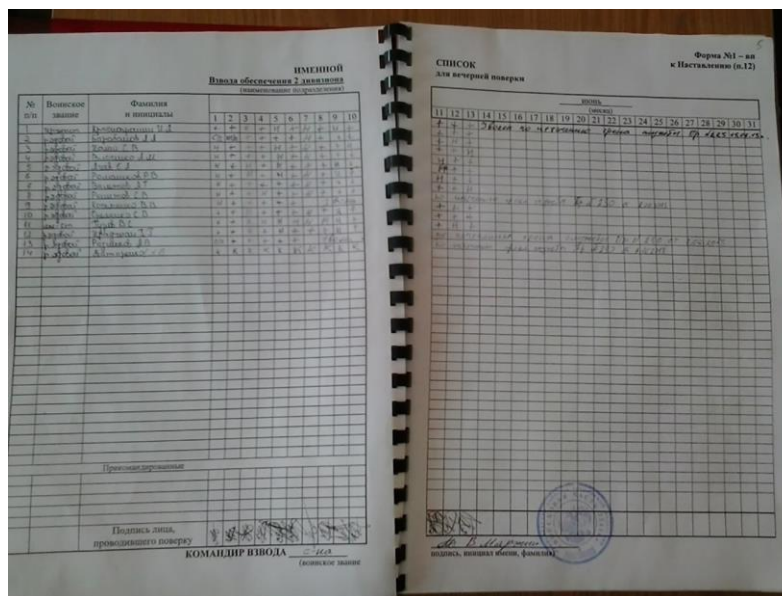
This section describes several battalions and shows which soldiers took part in the 23-25 June 2014 Buk convoy. If the crew of the Buk that downed MH17 came from Russia, they very likely were transported together with Buk 3x2 in the 23-25 June 2014 Buk convoy and were most likely soldiers of the 2nd Battalion. Thus, soldiers who were not in the 2nd Battalion and were not in the June 2014 Buk convoy very likely can be excluded from any involvement in the MH17 tragedy, unless the crew consisted of reservists or soldiers and officers outside of the 53rd Brigade. Since operating a Buk system requires fairly extensive training, conscript soldiers who started their military service late 2013 or early 2014 are very likely excluded from involvement in the tragedy. By narrowing down the scope of the search, only a relatively small group of contract soldiers and reservists who were in service in the 2nd Battalion in 2014 remain as potential suspects involved in the downing of MH17.

In addition to contract soldiers and/or reservists, the Buk crew also had two officers: one sergeant and one lieutenant (as mentioned in Section One). Section Five describes Bellingcat's investigation into the officers of the 53rd Brigade and highlights the 2nd Battalion commanders in particular.

It should be noted that in the public version, all of the identities of the soldiers and officers are censored because it might disturb the official police investigation should these identities be revealed. Apart from that, the privacy of these soldiers and officers has to be respected in case there is no relation between them and the MH17 tragedy or any other military activities in Ukraine.

2nd Battalion of the 53rd Brigade in 2013

Early into the MH17 investigation, a sergeant named Ivan Krasnoproshin was identified, and photos he had published were used to help tie the convoy transporting Buk 3x2 to the 53rd Anti-Aircraft Missile Brigade. Krasnoproshin deleted his VK profile soon after the publication of Bellingcat’s first article about the involvement of the Russian army in the downing of MH17. Despite the connection between Ivan Krasnoproshin and the 53rd Anti-Aircraft Missile Brigade, it should be explicitly noted that there is no evidence at all that Krasnoproshin was in the 23-25 June 2014 Buk convoy, let alone involved in the MH17 tragedy. Some of the photos he had uploaded revealed interesting information, such as an attendance list – a good starting point for research. The attendance list shows a list of names in the third column, a list of dates in first row, and markings indicating who was present on which date. The attendance list shows the month of June, and a sentence at the top of the attendance list in the first row (with the name ‘Krasnoproshin, I.A.’) makes clear that this attendance list is from the year 2013 and was photographed on 13 or 14 June 2013. The attendance list also displays the battalion that the soldiers were part of: “2nd Battalion” (“2 дивизиона”). Since a battalion consists of many more soldiers than just fourteen, as written in the attendance list, this attendance list possibly shows a battery within this battalion.

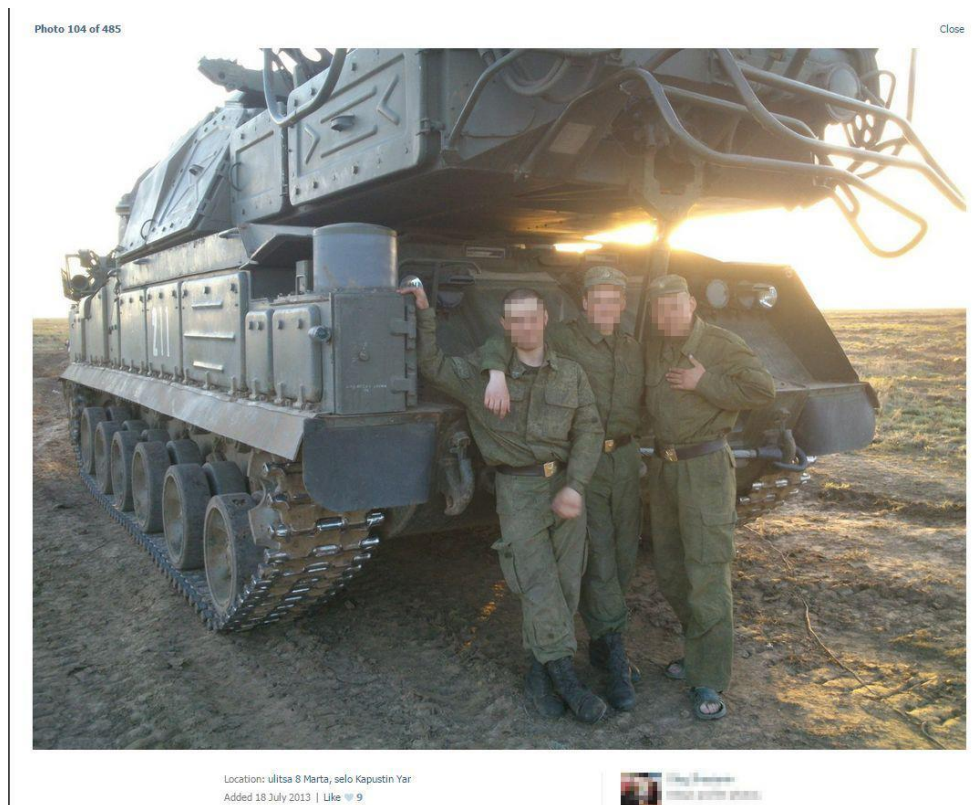


Attendance list of Krasnoproshin’s unit from June 2013.

The Bellingcat investigation team managed to find the profiles of 9 out of 14 soldiers whose names are on this attendance list by searching VK and by a thorough examination of the contacts (friends) list of each soldier. This revealed that most soldiers know at least five other soldiers, a strong indication that the right profile was found. Uploaded photographs in the soldiers’ photo albums show an exercise mission in a training field near Kapustin Yar – a small village to the east of Volgograd – close to the border between Russia and Kazakhstan. These images, dating between March and July 2013, show numerous Buk missile launchers and a few loaders with numbers on the side similar to those in the videos of the June 2014 Buk convoy. For example, one of those numbers is ‘211.’ As mentioned in Section One, the first number is the battalion, the second number the battery, and the third number the specific vehicle (Buk unit). The number of the battalion displayed on the Buk missile launchers indeed matches the number of the battalion mentioned at the top of the attendance list. Many soldiers have Buk missile launchers in their photo album starting with ‘21,’ an indication they were in the 1st Battery.

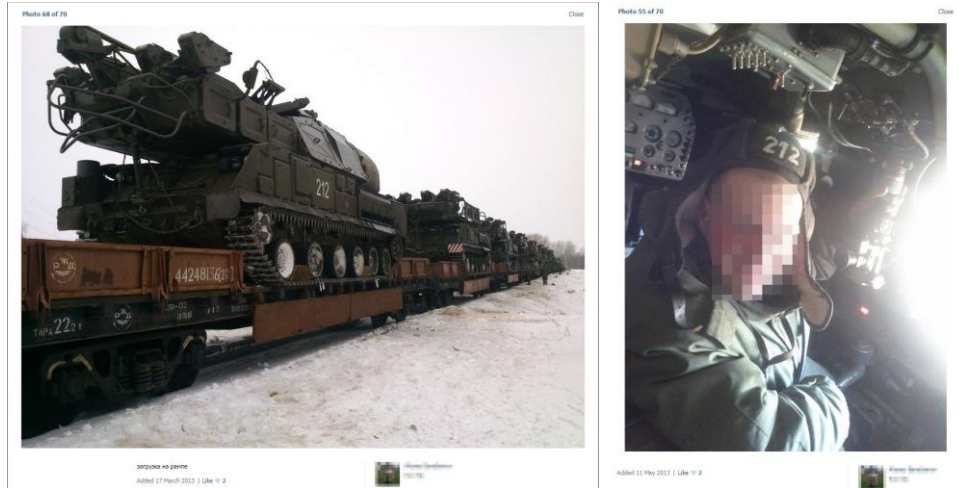
Via the soldiers' VK connections, more soldiers of the same unit were found; these soldiers uploaded photographs of Buk system units, displaying a number that starts with 2. One soldier uploaded many photographs of military vehicles, as well as a picture with a different attendance list on 23 June 2013, clearly stating his own name on that attendance list. It is probable that he moved from one battery to another since he can be seen in many pictures together with soldiers of the preceding attendance list (2nd Battalion, 1st Battery) and has some of the same pictures in his album as soldiers of the preceding list. From this attendance list, almost all names are legible and nine out of twelve names could be found on VK.

One photograph uploaded on 18 July 2013 by this soldier shows a Buk missile launcher with the number 211 on the side and three soldiers (including himself) standing in front of the launcher. A geotag shows the image was taken in the area of Kapustin Yar.



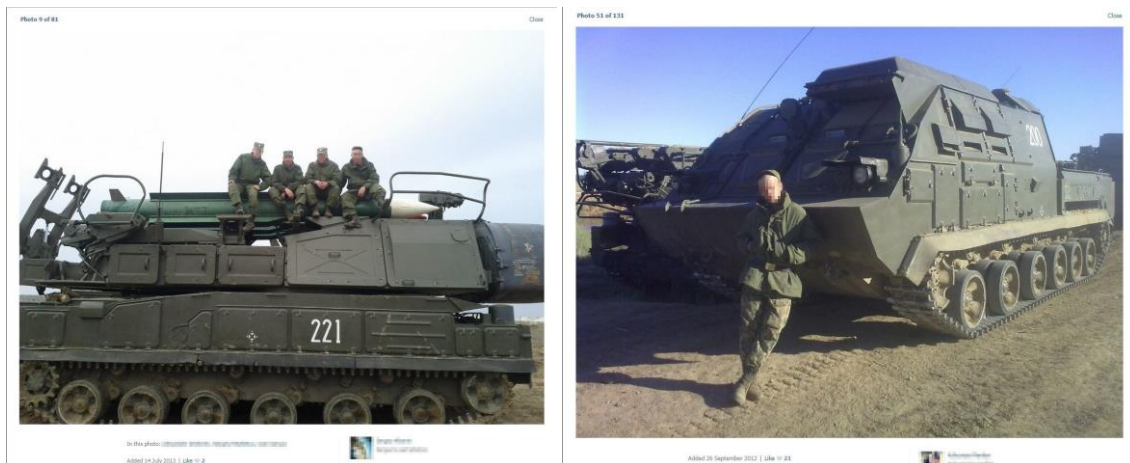
Picture of Buk missile launcher 211, photographed on a training field near Kapustin Yar, 18 July 2013.

More pictures show the relation between the June 2014 Buk convoy and this particular battery of the 53rd Anti-Aircraft Missile Brigade. Apart from pictures of Buk missile launcher 211, images of Buk missile launcher 212 are also in photo albums of these soldiers, another indication that the soldiers were in the 2nd Battalion, 1st Battery of the 53rd Anti-Aircraft Missile Brigade.



Left: Buk missile launcher 212, uploaded 17 March 2013; right: a soldier operating the same vehicle, uploaded 11 May 2013.

Photographs uploaded by soldiers connected to those on the attendance lists show a Buk missile launcher 221 and a Buk control unit 200. Thus, these soldiers apparently served in the same battalion, but in a different battery.



Left: Buk missile launcher 221, uploaded 14 July 2013; right: Buk control unit 200, uploaded 26 September 2012.

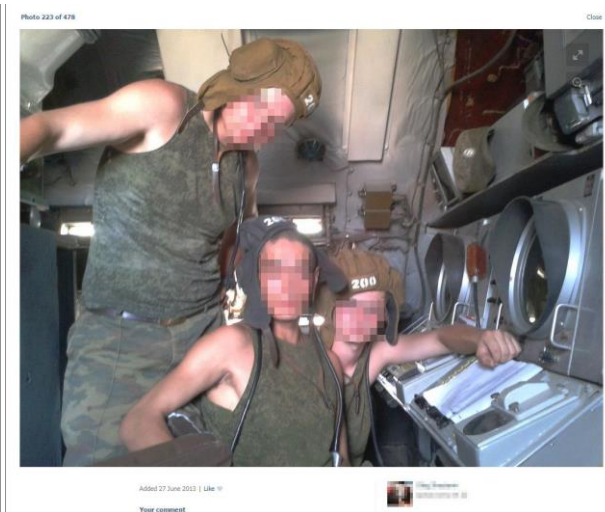
In addition to the connections between the soldiers on VK, many pictures found in photo albums of the soldiers are a strong indication that these soldiers were in the same military unit: pictures where the soldiers are together, often with their names written as a description under these pictures.



Left: a picture of five soldiers with their names tagged, uploaded 23 February 2015, the same picture was uploaded on 12 May 2013 by another soldier with the description "1-й эрбатр" (1st Battery).

Right: a picture of five other soldiers with their names tagged, uploaded 27 June 2013.

After examining many pictures of these soldiers, their faces become recognizable, making it possible to identify several and often even all soldiers within a photograph:



Left: a picture of Ivan Krasnoproshin (middle) and four other soldiers, uploaded 12 May 2013.

Right: a picture inside Buk control unit 200 with three soldiers, uploaded 27 June 2013.

3rd Battalion of the 53rd Brigade in 2014

The Bellingcat team found another attendance list, uploaded in August 2014, in a photo album of a VK community of students from a technical university that carried out a traineeship and practical exam at the base of the 53rd Anti-Aircraft Missile Brigade (Section Five describes an investigation into these students). The 3rd Battalion of the 53rd Anti-Aircraft Missile Brigade is specifically mentioned at the top of this attendance list. Out of 22 soldiers on this list, 14 profiles on VK were found and, again, the number of connections between the soldiers show these soldiers were in the same military unit.

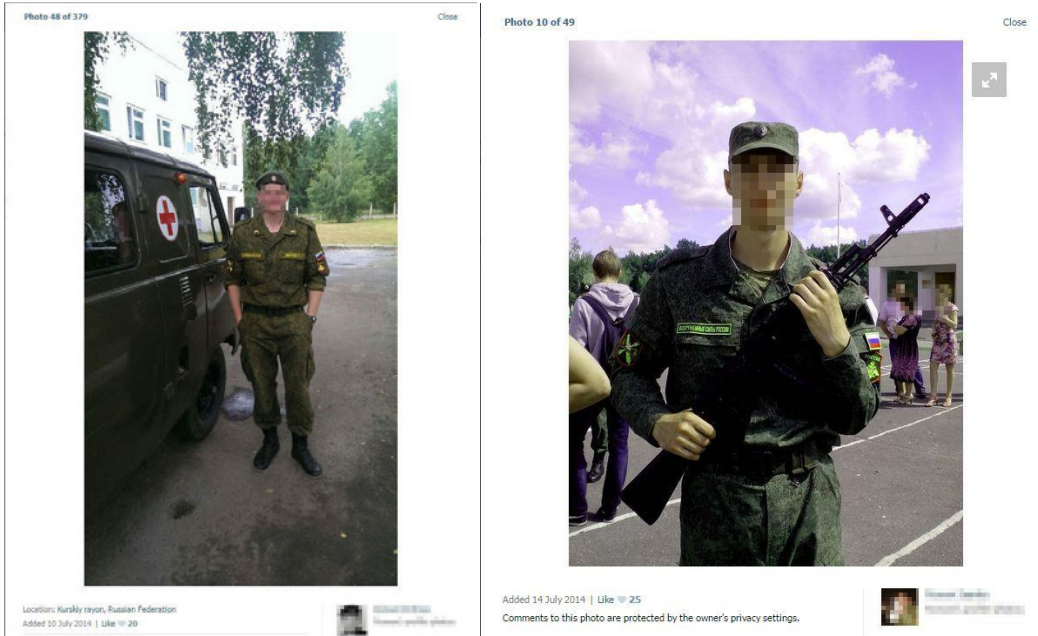


Left: the attendance list of a unit of the 3rd Battalion in 2014; right: a close up of the page with names.

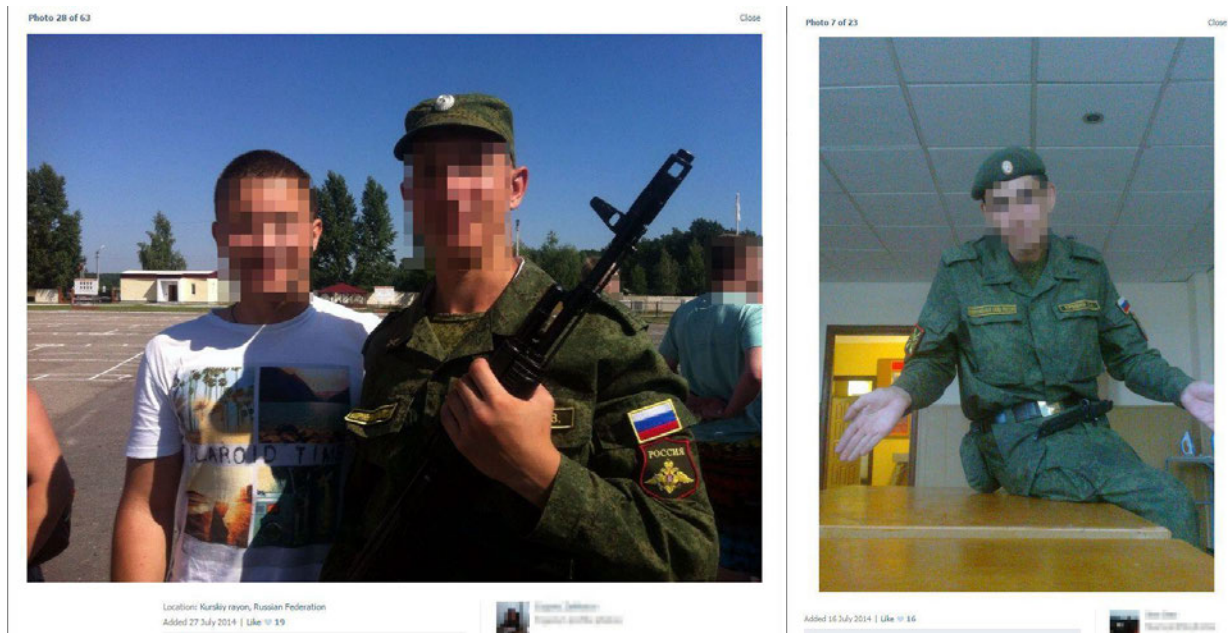
As described in Section Two, videos and photographs of the 23-25 June 2014 Buk convoy mainly show vehicles of the 2nd Battalion; the few missing vehicles were replaced by two (likely) 3rd Battalion vehicles and one vehicle without any unit designation. Since the convoy was clearly a complete Buk-M1 system mainly consisting of 2nd Battalion Buk-M1 vehicles, it seems most likely that 3rd Battalion soldiers were not involved in this convoy and the 2nd Battalion “borrowed” a few 3rd Battalion Buk system vehicles. In addition, the estimated number of soldiers in the June 2014 convoy (around 100) seems to equal the number of soldiers in a single battalion, as described in Section Two.

The 3rd Battalion vehicles visible in the videos of the June 2014 convoy look as if they were no longer in regular service, with two vehicles having a degraded appearance. As evidenced by the social media profiles and photo albums of 53rd Brigade members, it seems very likely that the Buk system vehicles of the 3rd Battalion were not used in exercises near Kapustin Yar after 2011, giving the impression that the 3rd Battalion was disbanded after 2011. A comment dated 24 June 2012 in an Odnoklassniki group dedicated to the 53rd Brigade suggests that the 3rd Battalion may have been disbanded, but other members of the group dispute this. In August 2013, someone who served at the 53rd Brigade in 2012-2013 wrote that the 3rd Battalion only had some officers, but no conscript soldiers, which indicates the 3rd Battalion still existed in the 2012-2013 timeframe.

Another indication that the 3rd Battalion was not part of the 23-25 June 2014 Buk convoy is that photographs uploaded by soldiers of the 3rd Battalion in 2014 do not show any involvement in the June 2014 convoy or participation in a training camp near the Russia-Ukraine border. Many soldiers posted pictures of themselves at the base near Kursk in early and mid-July 2014. Those photographs could have been taken earlier and uploaded later, but this does not seem very likely considering the number of photographs at the base posted by 3rd Battalion soldiers in July 2014.

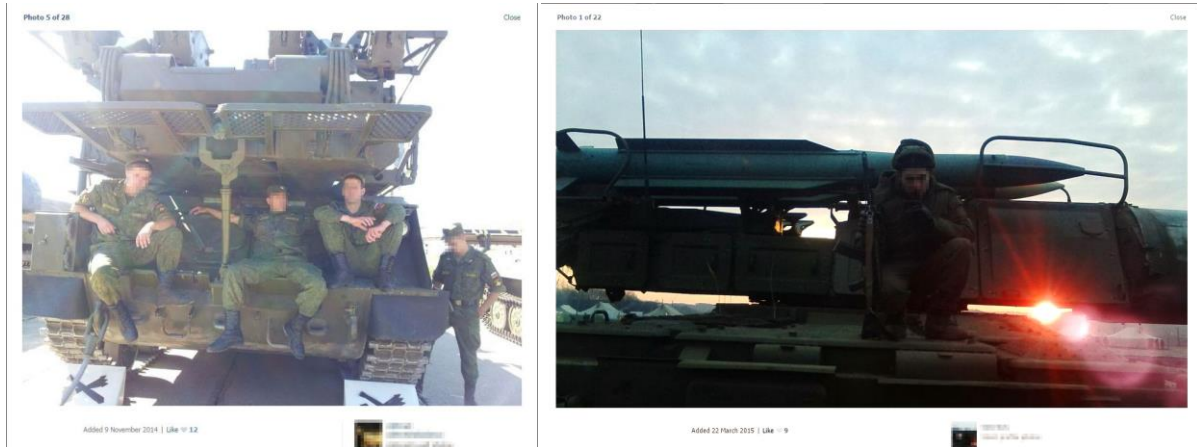


Left: a soldier near a military ambulance on the base of the 53rd Brigade near Kursk, geotagged Kurskiy rayon, uploaded 10 July 2014;
 Right: a soldier on the base of the 53rd Brigade, uploaded 14 July 2014.



Left: a soldier at the base of the 53rd Brigade, geotagged Kurskiy rayon, uploaded 27 July 2014;
 Right: a soldier at the base of the 53rd Brigade, uploaded 16 July 2014.

Only two soldiers of the 3rd Battalion posted pictures of a Buk missile launcher; these were uploaded November 2014 (likely taken much earlier, considering the weather conditions in the photo) and March 2015. The soldiers in the previously mentioned attendance list were not the only ones examined; among their connections are many more soldiers of the 3rd Battalion. None of the soldiers posted any photographs of a convoy, training camp, or an area resembling the Rostov border area in 2014.



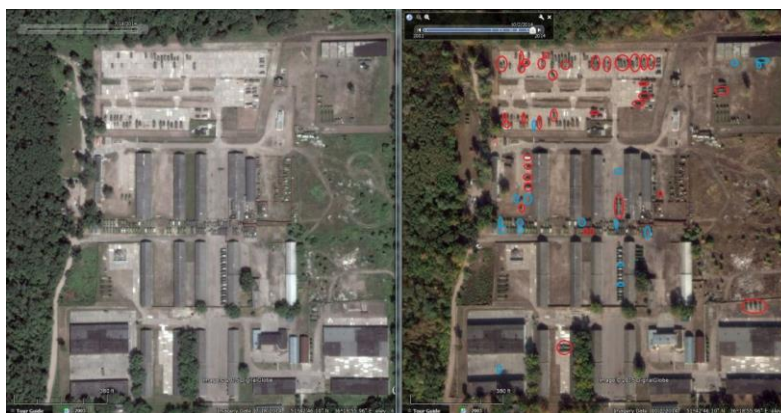
Left: four soldiers and a Buk missile launcher, uploaded by a soldier on 9 November 2014;
Right: a soldier sitting on a Buk missile launcher, uploaded 22 March 2015.

Recommissioning of the 3rd Battalion

Evidence from 2015 shows that the 3rd Battalion of the 53rd Anti-Aircraft Missile Brigade was restored in 2014. First, a photograph published by Censor.net, a Ukrainian news site, on 30 January 2015 showed a Buk missile launcher without a unit number.⁶⁹ The article claims that the Buk missile launcher visible on the picture is Buk 3x2 (the Buk related to the downing of MH17), but then repainted and repaired. However, the Bellingcat investigation team came to the conclusion that there is no evidence that this is the same Buk. The “repainted” Buk has different wheels than Buk 3x2, no similar side skirt damage, and no other unique similarities. Another conclusion is that this Buk has been photographed at the base of the 53rd Anti-Aircraft Missile Brigade⁷⁰ and, after comparing the area of the photograph with historical satellite images, it was taken between 27 July and 2 October 2014; by looking at the weather conditions in the photograph, it was likely in the summer. Unfortunately, the photograph was removed from the soldier’s photo album before the upload date could be established. Historical satellite imagery shows the number of military vehicles on 2 October 2014 was greater than on 27 July 2014, an indication that many of the Buk vehicles returned from the border area.



Left: picture of a soldier in front of a Buk missile launcher without unit designation; right: geolocation of the photograph at the base of the 53rd Anti-Aircraft Missile Brigade (the Buk located on the red square, view lines in blue).

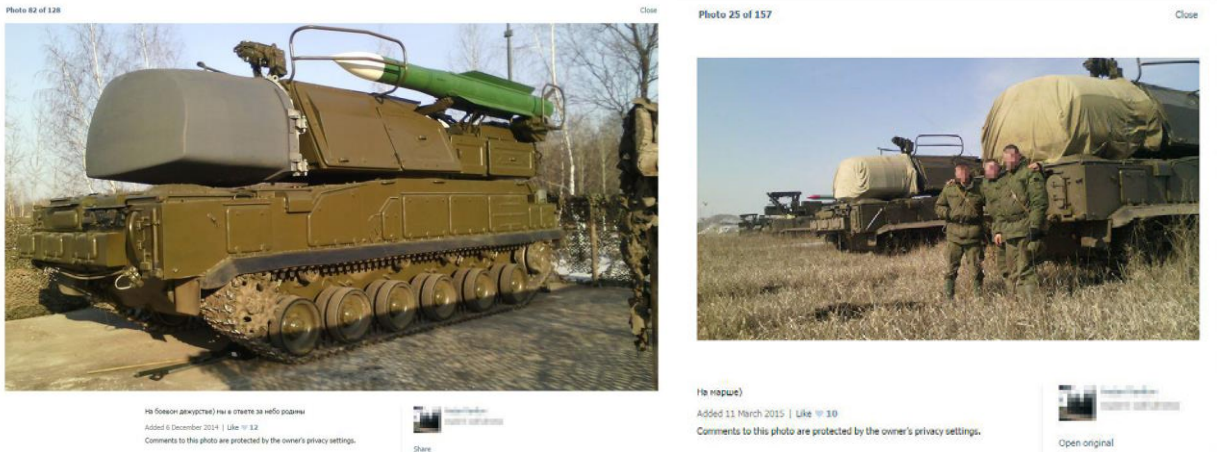


Comparison between Google Earth satellite imagery of 18 July and 2 October 2014 (vehicles that returned to the base in red circles, location of vehicles missing in blue circles).

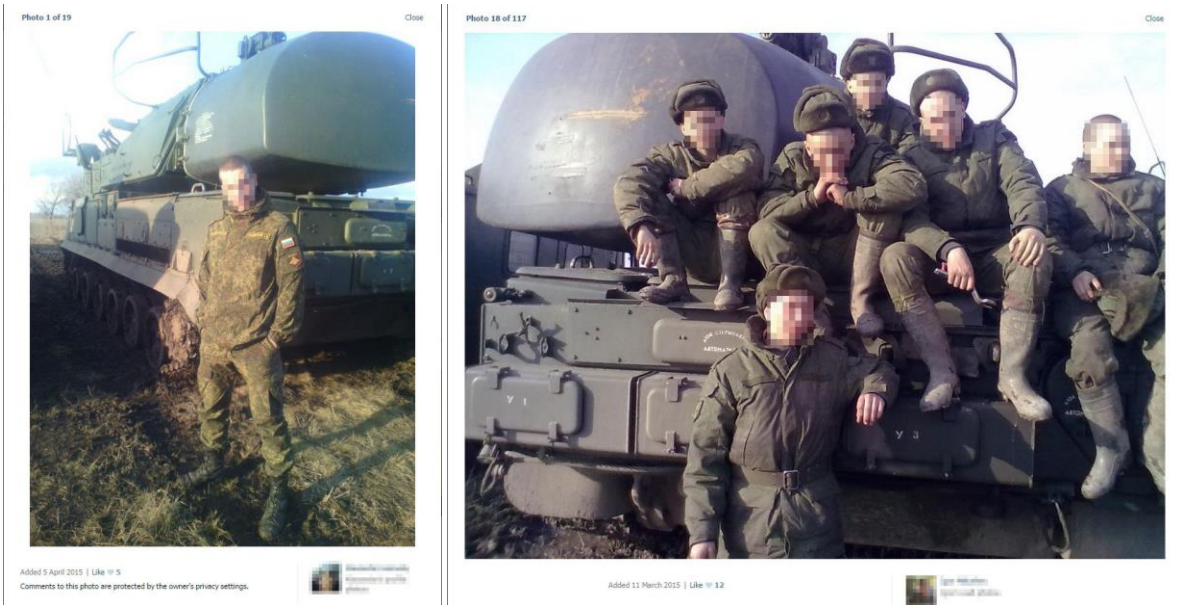
⁶⁹ http://censor.net.ua/forum/753625/novye_podrobnosti_s_bukom_rf_posle_vyvozki_v_rossiyu_buk_perekrasili

⁷⁰ <http://postimg.org/image/80v6aqnx/>
<http://www.google.nl/maps/@51.7140849,36.3144433,332m/data=!3m1!1e3>

After the publication of the Censor.net article, the Bellingcat team found more photographs of soldiers from the 3rd Battalion of the 53rd Anti-Aircraft Missile Brigade displaying Buk missile launchers without unit designations.

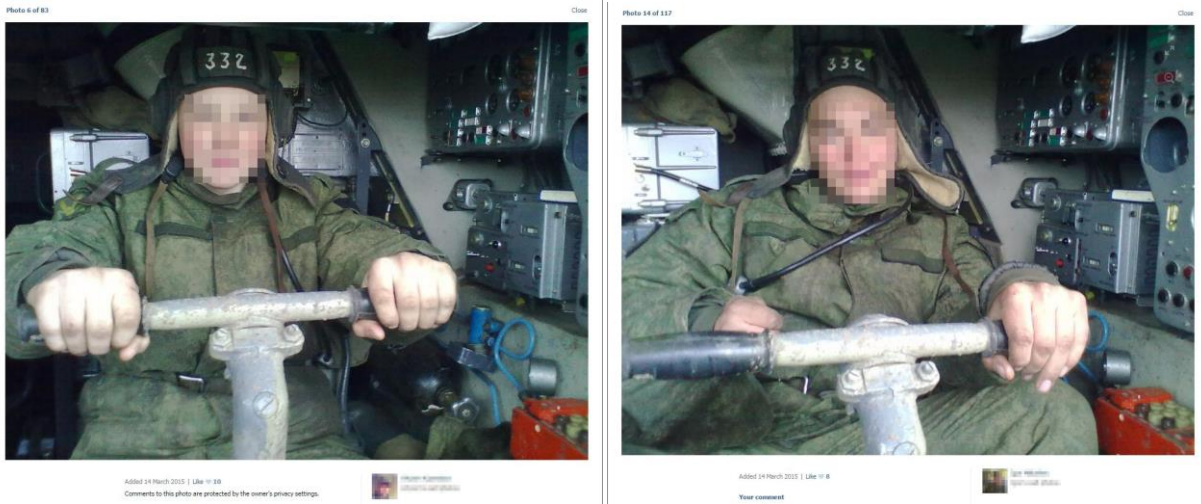


Left: a Buk missile launcher without a unit number, uploaded 6 December 2014;
Right: two Buk missile launchers and two Buk missile loaders in a field, uploaded 11 March 2015.

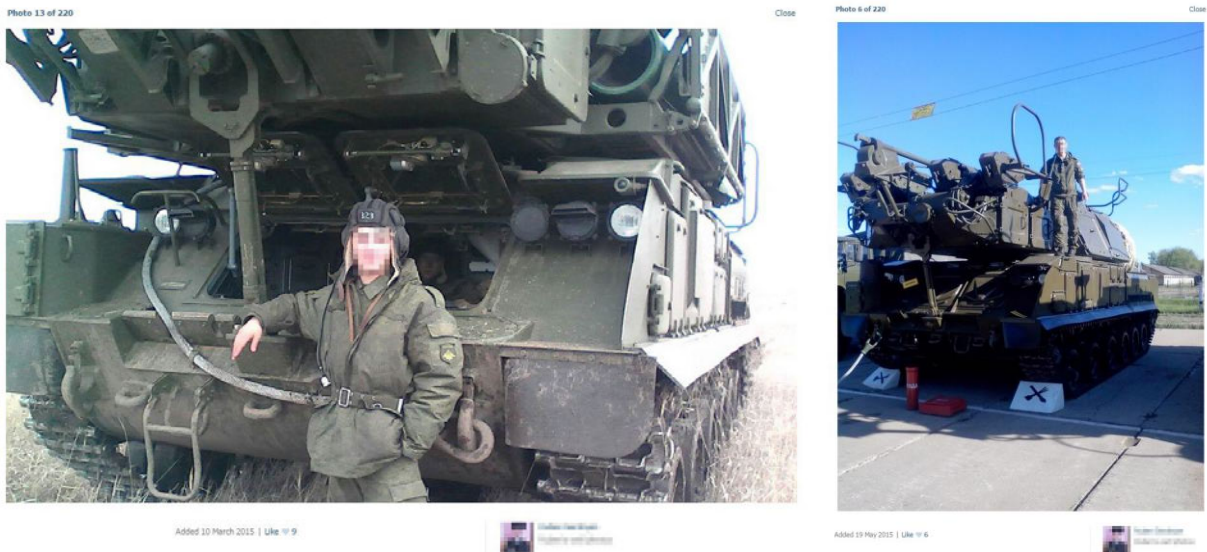


Left: a soldier in front of a Buk missile launcher without a unit number, uploaded 5 April 2015;
Right: a group of soldiers sitting on a Buk missile launcher, uploaded 11 March 2015.

Other photographs show soldiers wearing the helmets of the 3rd Battalion with the number 332, some photographs of an officer wearing a helmet with the number 323, and a Buk missile launcher without a unit number.



Left: a soldier with helmet 332; right: another soldier with helmet 332; both inside Buk missile launchers; both pictures uploaded 14 March 2015.



Left: an officer wearing helmet 323 in front of a Buk missile loader;
Right: the same officer standing on a Buk missile launcher without a unit number.

However, the link between the unnumbered Bucs and the numbers on the helmets these soldiers are wearing in their pictures is not clear. There is no evidence the Buk vehicles without numbers are from the 3rd Battalion since Bucs of the 1st and/or 2nd Battalion could have had the numbers removed as well, although the numbers on the helmets indicate that the vehicles are 3rd Battalion Buk units.

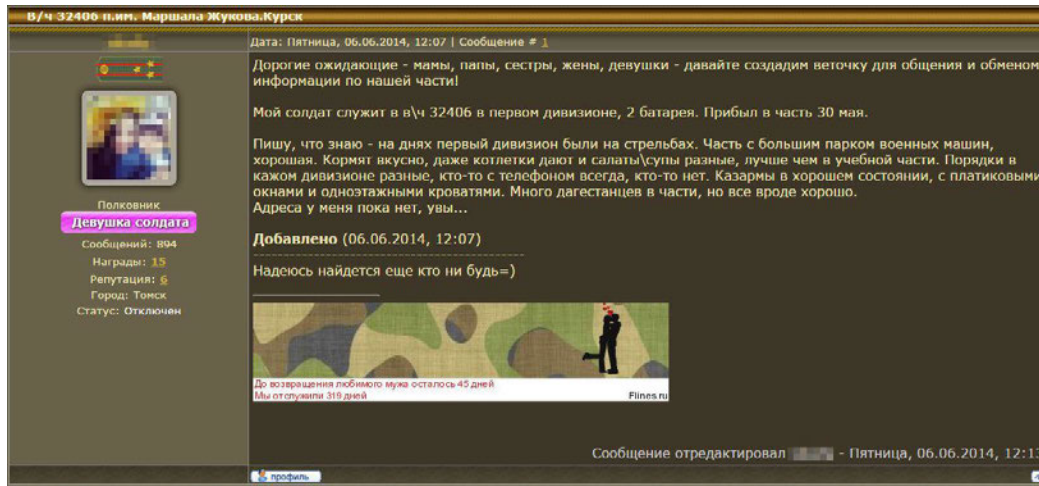
2nd Battalion of the 53rd Brigade in 2014

In search of information about 53rd Brigade members who might have been involved in the 2014 Buk convoys, the Bellingcat investigation team found a forum where mothers and wives of soldiers communicate with each other about their soldiers. This forum contains a topic about Unit 32406, or the 53rd Anti-Aircraft Missile Brigade. A few of these women wrote that their son or husband went to a training camp in the Rostov Oblast, near the Russian-Ukrainian border, and complained about the fact that they are so difficult to reach since they were not allowed to use their mobile phones. Some of the women described their son or husband as being in the 2nd Battalion and complained about the lack of discipline. One mother reveals enough information about herself and her son to find them on VK, and one wife mentioned the full name of her husband, which was removed soon after.

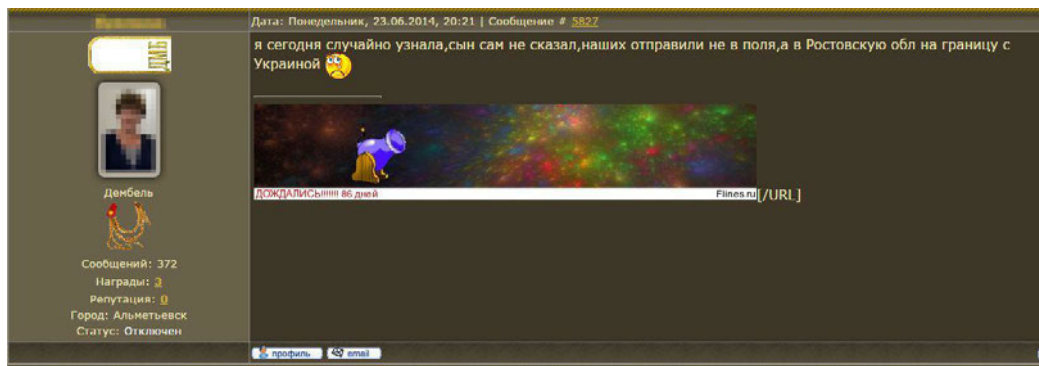
The conversation on the forum's Unit 32406 topic starts on 6 June 2014 and mainly consists of worried mothers and wives discussing their troubles in contacting their soldiers. One woman with the nickname 'Ivanka' was still able to contact her son quite often and gave information about the situation on the base to other women. Some highlights of the conversation and the information they reveal are listed below:

- A woman called 'Simona' starts with her soldier being in Unit 32406, in the 1st Battalion, 2nd Battery.
- 'Ivanka' answers and says she has a son named Aleksey. and 'Simona' asks for the address of the unit.
- 'Ivanka' again answers that Igor (apparently the soldier of 'Simona') is in the 2nd Battalion, 2nd Battery (and her own son is in the 3rd Battery).
- In later messages, it becomes clear 'Simona' is named Lara; it turns out both soldiers come from Orenburg and they actually ended up in the same unit together.
- Another woman joins the conversation and asks how the discipline is at the unit in Kursk, and 'Ivanka' answers that she does not know because her son started in Orenburg, went to the unit in Kursk in June 2014, and, in the end of June, the 2nd Battalion was sent to the Rostov region near the border of Ukraine.
- It is mentioned that 280 soldiers are conducting exercises in the Rostov region and 'Simona' (Lara) says that her husband is serving in a unit of 100 soldiers.
- Between 9 July and 4 August 2014, no messages were posted in the forum, or they had been deleted soon after. Afterward, messages are posted by the women complaining that the soldiers near the border have already been there for a long time and that they are difficult to reach.
- 'Simona' (Lara) writes on 16 August 2014 that the 1st and 2nd Battalions are in the Rostov region and that the 3rd Battalion will go to Kapustin Yar (a training area to the east of Volgograd near the Kazakhstan border).
- A woman who calls herself 'Elena' writes that her son is called Sergey; this name was deleted soon after, but the profile was found on VK. She also writes that 26 soldiers were sent from Orenburg to Kursk.
- When 'Elena' is worried about her son, 'Ivanka' writes her VK profile on the forum and her name seems to be Ivana and a second profile she has makes it clear that her real name is Ivana S., and her son is named Aleksey S.
- Through Ivana's profile, the profile and real name of 'Simona' (Lara) can also be found. In November 2014, she writes that the soldiers were at the border for three months.

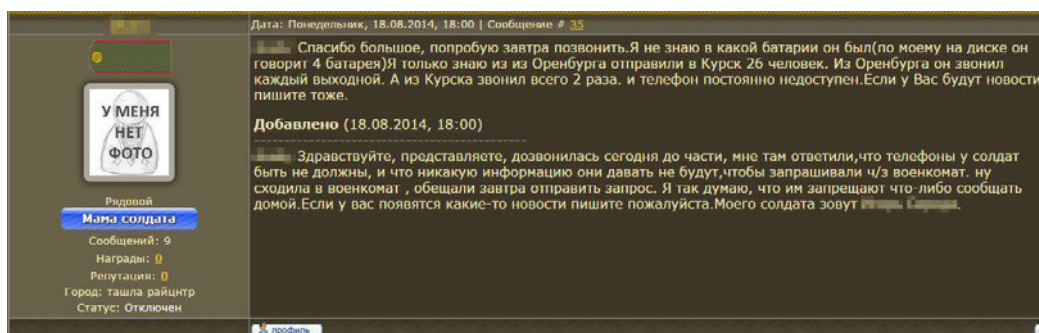
The same forum has a topic about the unit in Orenburg as well (Unit 33860), where posts can be found from the same mothers, 'Ivanka' and 'Simona.' 'Ivanka' wrote on 23 June 2014 (the date the June 2014 Buk convoy was first seen) that she accidentally found out her son was sent to the Rostov region near Ukraine instead of Kapustin Yar (as her son apparently mentioned before as destination), and that her son was in an area near Millerovo at the border close to Luhansk a day later.



Simona's first post about her husband being in Unit 32406 (53rd Anti-Aircraft Missile Brigade) in the 1st Battalion, 2nd Battery, arrived on May 30th 2014.

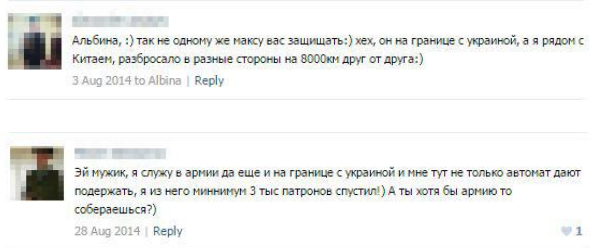


Ivanka's post on 23rd June 2014, where she writes she accidentally found out her son was sent to Rostov Oblast near the border of Ukraine.



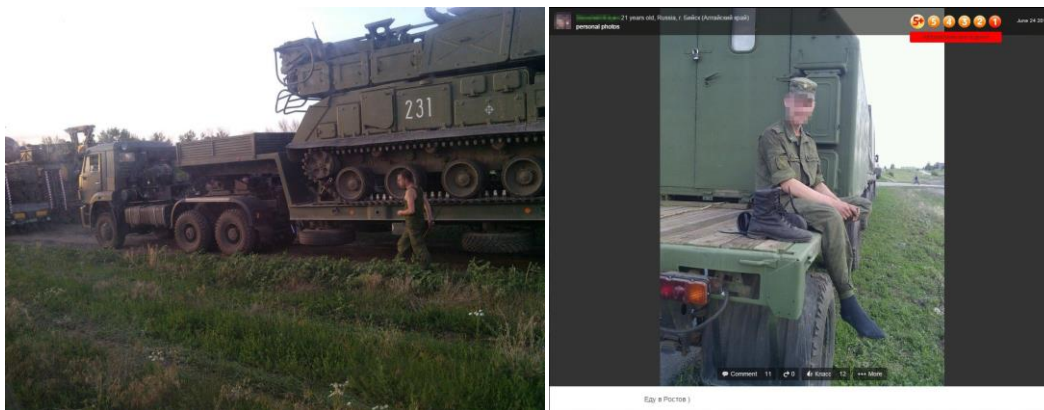
Elena's post about 26 soldiers having been sent from Orenburg to Kursk and her son named Sergey August 18th 2014.

On his profile wall, Aleksey S. (the son of 'Ivanka') commented on a photo of himself that he was serving on the border of Ukraine. A friend of Aleksey, who also was in the army, commented Aleksey was near the border of Ukraine, and he himself close to China. His mother posted two pictures of her son and other soldiers (one picture of him sitting next to another soldier in what looks like a bus) with the text "on the road to the Rostov Oblast."



Left: Aleksey writes "... I served in the army and even on the border with Ukraine...", 28 August 2014.
 A friend of Aleksey writes "...he is on the border with Ukraine, I am close to China...", 3 August 2014.
 Right: his mother posted pictures on his wall of her son and writes "on the road to the Rostov Oblast," 28 June 2014.

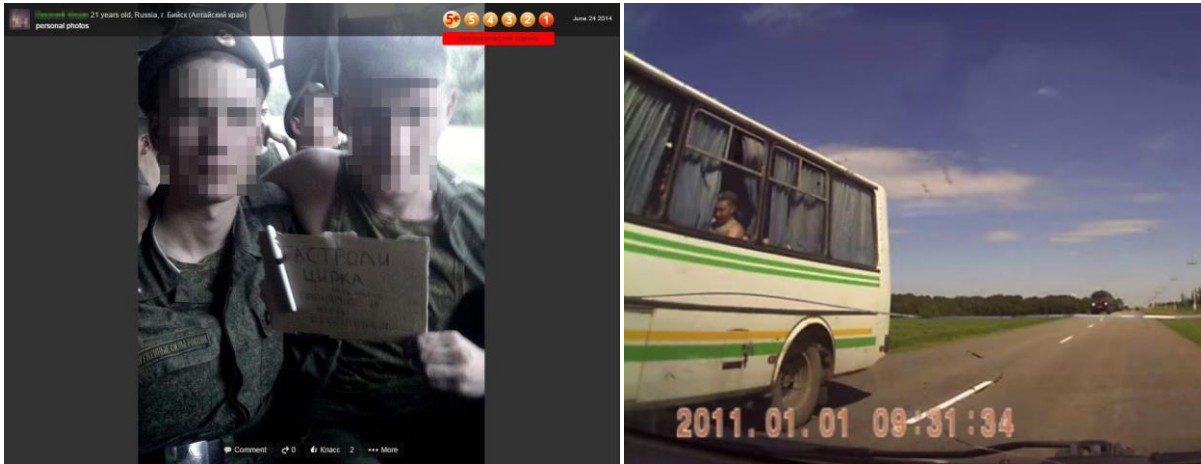
Via Aleksey, another soldier named Vitaly was found. He posted photographs of the 23-25 June 2014 Buk convoy on his profile, one of which was published in Bellingcat's *Origin of the Separatists' Buk* report, showing a Buk missile launcher on a trailer. This resulted in the removal of that picture, as well as other pictures, and Vitaly changed his name on VK. However, all of the photographs were archived. Another profile of the soldier was found on Odnoklassniki, where his name is still Vitaly. Some of the photographs deleted from the VK account remained there. One of these pictures (uploaded 24 June 2014) shows the soldier sitting on a truck with the caption, "I am going to Rostov." The image was geolocated on the side of a road in a village called Varvarovka,⁷¹ which was on the route of the 23-25 June 2014 Buk convoy.



Left: picture of Buk missile launcher 231 found in Vitaly's photo album on VK; right: a picture of Vitaly sitting on a truck of the June convoy, uploaded 24 June 2014, with a subscript "I am going to Rostov," geolocated in Varvarovka.

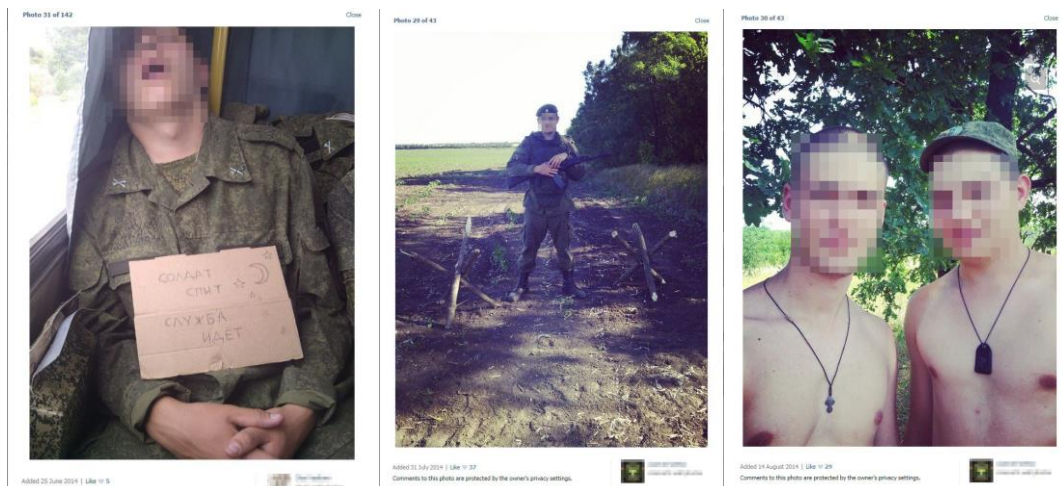
⁷¹ http://www.google.com/maps/@50.381786,38.831029,3a,37.5y,144.06h,85.29t/data=!3m4!1e1!3m2!1s2LTcCG_XN-jIvorGlo1w7QI2e0

In addition to these pictures, which already prove that Vitaly took part in the June 2014 Buk convoy, an image that was found on Aleksey's profile wall can also be found in Vitaly's album. In this photograph, the two soldiers are sitting next to each other in what appears to be a bus. Behind them, we see other soldiers, one of them sitting next to the window with his eyes closed. In one of the uploaded videos of the June 2014 Buk convoy, a soldier can be seen sitting next to the window on the same side of the bus and in the same position.⁷² The soldier in the video is also sleeping, wearing a similar hat and t-shirt, and appears to be sitting behind a soldier that is taller than himself (in several photographs, Vitaly seems quite tall) – another indication that Vitaly and Aleksey were indeed in the bus taking part in the 23-25 June 2014 Buk convoy.



Left: Vitaly and Aleksey sitting next to each other in a bus, picture uploaded 24 June 2014;
 Right: a screenshot of the bus that was in the 23-25 June 2014 Buk convoy.

A few more photographs were found in the photo albums of Vitaly and Aleksey, where other soldiers are visible; these soldiers' profiles have been found between their connections. One picture shows another soldier sitting in the bus named Evgeny. Other pictures show him in a field on 31 July 2014 and together with Aleksey on 14 August 2014.

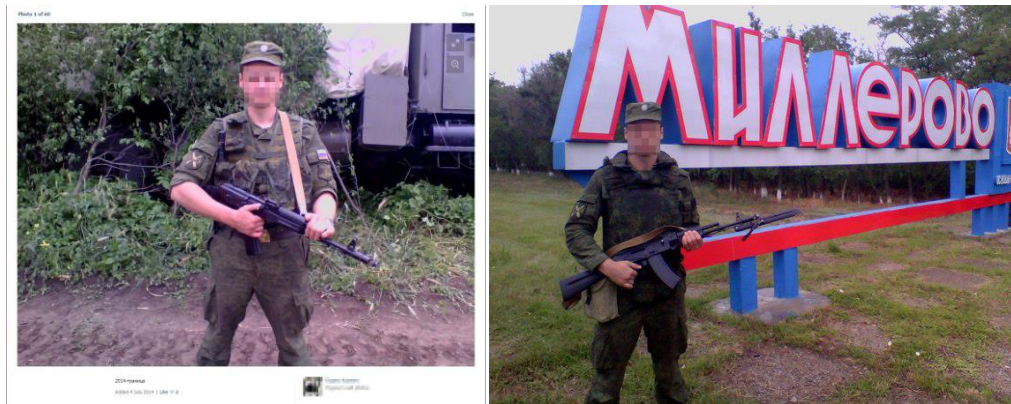


Left: Evgeny sleeps in the bus (25 June 2014); middle: in a field (31 July 2014); right: together with Aleksey. (14 August 2014).

⁷² <http://www.youtube.com/watch?v=aLtzYEHolmg&t=194>

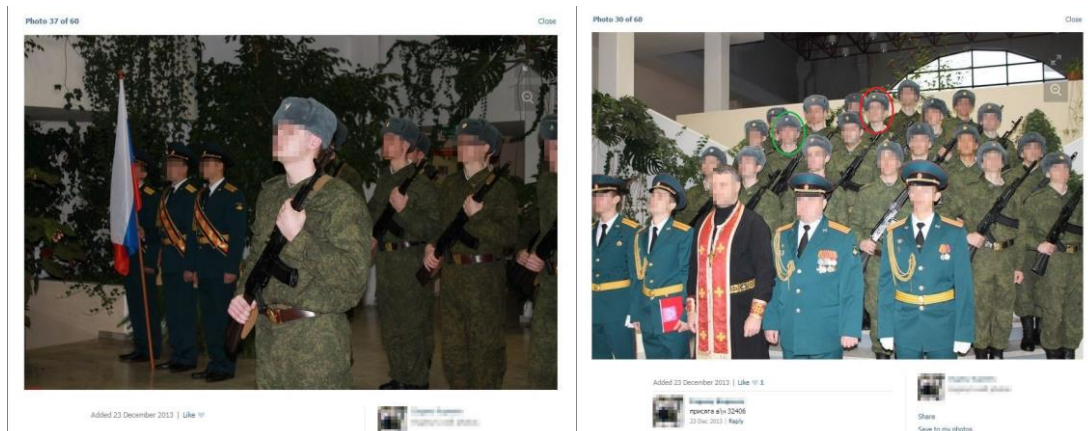
More photographs of soldiers, connected directly or indirectly to Aleksey, Vitaly, or Evgeny, show them in wooded areas or in fields in the summer of 2014. Since these soldiers are not only connected to the soldiers mentioned above, but also to each other, they likely all belong to the same unit, the 2nd Battalion of the 53rd Anti-Aircraft Missile Brigade.

A father of one of these soldiers posted pictures with descriptions that make it clear that these images were taken in the Rostov Oblast. One picture with the caption, “2014-граница” (2014-border), uploaded 4 July 2014, shows his son Denis in front of a truck partly camouflaged by leaves. Another picture in this album shows Denis standing in front of a road sign saying “Миллерово” (Millerovo) – the last place the June 2014 Buk convoy was seen – but that picture was soon removed from his album. After the first picture was published in the media,⁷³ the whole profile was removed in June 2015 after someone in a forum posted the link to that profile.



Left: a picture with caption “2014-border” and Denis in front of a camouflaged truck, uploaded 4 July 2014;
 Right: a picture of Denis standing in front of a road sign “Millerovo,” uploaded 4 July 2014.

Other photographs in the album show him taking an oath at the 53rd Anti-Aircraft Missile Brigade base along with a group of soldiers standing behind officers at the same occasion on 23 December 2013. After close examination of the group picture, another soldier, Vitaly, can be recognized.

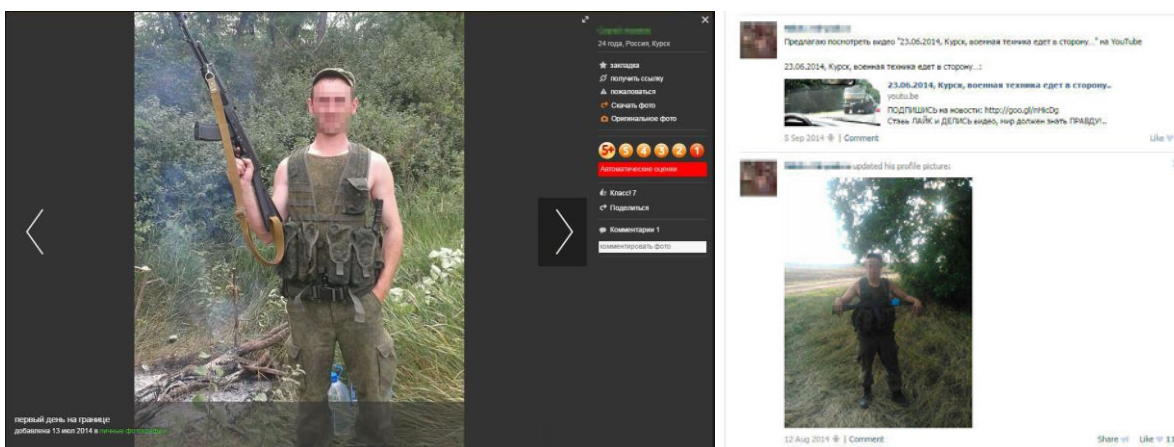


Left: Denis taking the oath, 23 December 2013; right: group picture with Denis (green) and Vitaly (red), 23 December 2013.

⁷³ <http://www.bild.de/bild-plus/politik/ausland/flug-mh-17/bericht-enthuell-t-die-taeter-des-flugzeug-abschusses-41362040>

These photographs show that a group of soldiers in the 2nd Battalion of 2014 started their military service at the end of 2013, so these conscript soldiers were serving in the military for just half a year before MH17 was downed. Since the operation of a Buk missile launcher needs a training for at least half a year and a lot of experience in difficult circumstances (such as operating a Buk missile launcher without a control unit and/or Snow Drift radar in a real war situation), it is very unlikely that these or other conscript soldiers were involved in the downing of MH17. However, it might be possible that these soldiers know which experienced soldiers (contracted soldiers or reservists) were part of the Buk crew that downed MH17.

More photographs uploaded by soldiers of the 2nd Battalion in 2014 show their presence in the border area. One soldier posted a photograph on Odnoklassniki with the description "первый день на границе" (first day at the border). One of his connections posted a photograph of himself in a field on 12 August 2014 and a link to one of the videos of the 23-25 June 2014 Buk convoy, apparently aware of the fact that videos of the June 2014 Buk convoy they took part in were posted online.



Left: a soldier posts on 13 July 2014 a photograph with the description "first day at the border"; right: another soldier posts a photograph in a border area on 12 August 2014 and a link to a YouTube video of the 23-25 June 2014 Buk convoy.

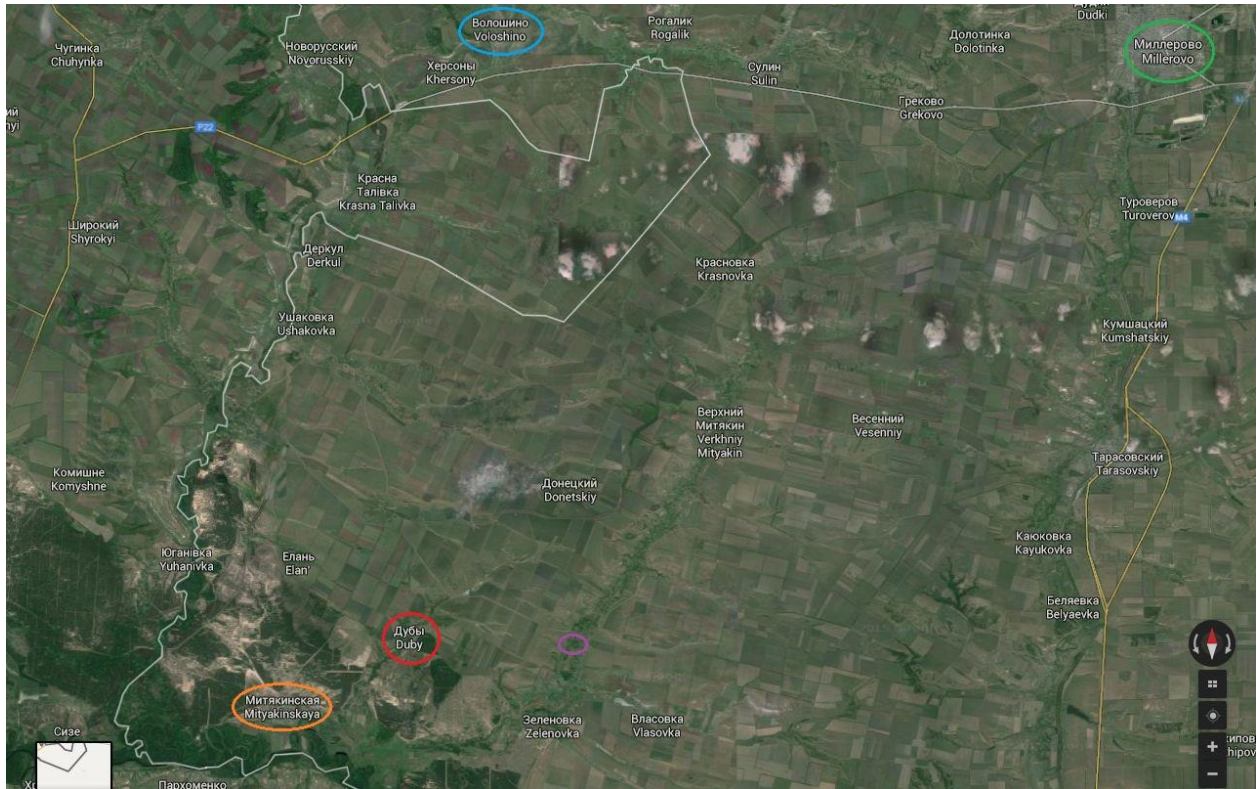
Many more photographs were found of soldiers in remote areas or unrecognizable fields, some of them showing a path next to the fields and woods on the other side of the path. All of these images raise the question of where the photographs were taken. The 23-25 June 2014 Buk convoy was last seen on its way to Millerovo and, for a long time, it was not clear where the soldiers and vehicles of that convoy went afterward.

Many images of soldiers in an area southwest of Millerovo were found with Yomapic,⁷⁴ a tool that searches for geotagged images on VK and Instagram, mainly in the area around Duby, Elan, Zelenovka, Chebotovka, and Mityakinskaya – a remote area in the Rostov Oblast close to the Russia-Ukraine border.⁷⁵ Another image geotagged near Voloshino,⁷⁶ to the west of Millerovo, was also found, showing a soldier sitting on a Buk missile launcher.

⁷⁴ <http://www.yomapic.com>

⁷⁵ <http://www.google.com/maps/@48.6355003,39.8305748,22703m/data=!3m1!1e3?hl=en>

⁷⁶ <http://www.google.com/maps/@48.9166953,39.9303009,11281m/data=!3m1!1e3?hl=en>



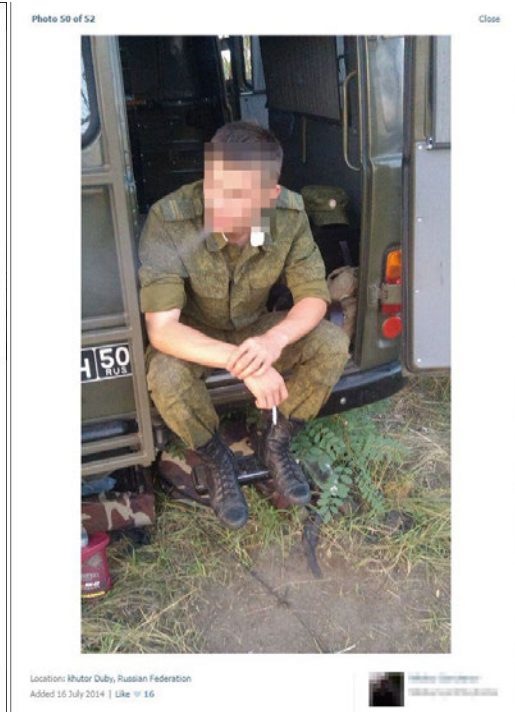
Google Map of the area southwest of Millerovo (green circle) with DUBY (red circle), Mityakinskaya (orange circle), Chebotovka (purple circle), and Voloshino (blue circle).

In a previous Bellingcat report, *Tracking the Trailers: Investigation of MH17 Buk's Russian Convoy*,⁷⁷ several drivers of military convoys posted images taken in the area of Mityakinskaya as well – an indication that military equipment was transported close to the border with Ukraine.

A soldier named Roman, a member of the 53rd Anti-Aircraft Missile Brigade, posted a picture on 23 July 2014 geotagged in Chebotovka, a village in the Rostov Oblast to the southwest of Millerovo, close to the Russian-Ukrainian border. Another soldier, Artur, of Unit 64055 or the 16th Separate Electronic Warfare Brigade (another unit from Kursk),⁷⁸ posted a picture of himself sitting on a truck in the area of DUBY on 16 July 2014, and another 53rd Anti-Aircraft Missile Brigade soldier, Ruslan, posted a picture of himself sitting on a Buk missile launcher on 4 July 2014 near Voloshino, to the west of Millerovo.

⁷⁷ <http://www.bellingcat.com/news/uk-and-europe/2015/05/13/tracking-the-trailers-investigation-of-mh17-buks-russian-convoy>

⁷⁸ <http://warfare.be/db/lang/rus/catid/239/linkid/2223/base/1592/>

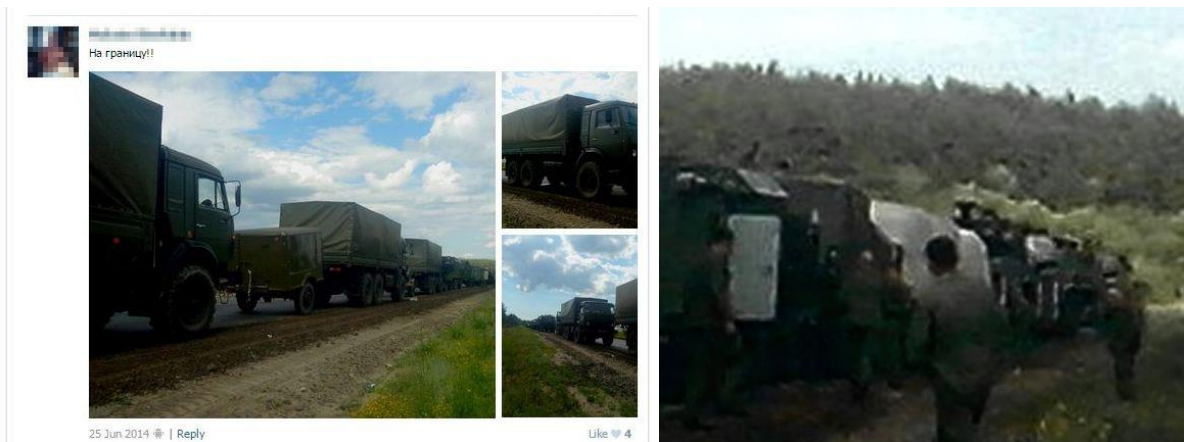


Left: Roman in Chebotovka on 23 July 2014; right: Artur near Duby on 16 July 2014.

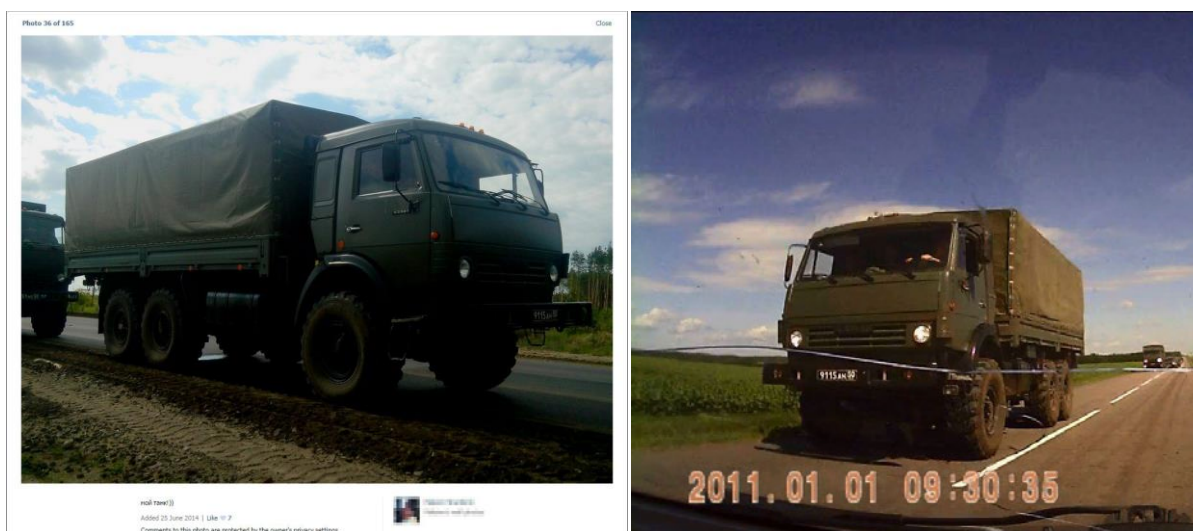


Ruslan on a Buk missile launcher near Voloshino on 4 July 2014.

Further investigation into the connections of the 2nd Battalion members reveals additional images of the 23-25 June 2014 Buk convoy, photographs taken by soldier-drivers of the convoy, and their own trucks. A soldier-driver named Pavel uploaded pictures of his own truck with the license plate '9115 AH 50' (a truck that was also part of the June 2014 Buk convoy)⁷⁹ on 25 June 2014, the day the convoy was filmed in the area of Millerovo. Part of that convoy is visible in two other pictures. In one, a trailer with what seems to be a Buk unit vehicle is visible in the distance. A post on his VK wall shows the same three pictures with the text "На границу!" (to the border) and another wall post of 24 August shows a rifle hanging on a tree and the text "Что то из Ростова" (something from Rostov).



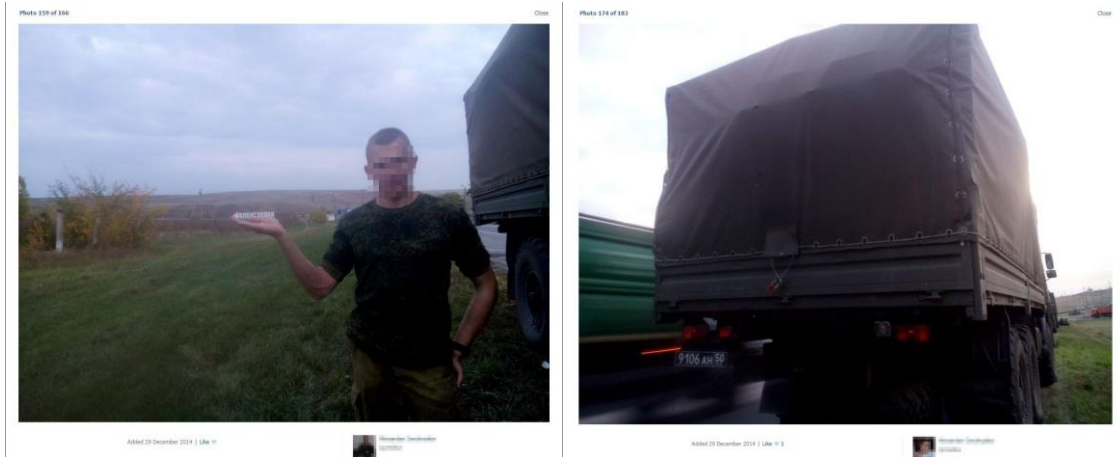
Left: post on Pavel's wall with three pictures of the June 2014 Buk convoy;
Right: a zoom of a convoy picture where a Buk unit vehicle is visible on a trailer.



Left: picture taken of Pavel's truck "9115 AH 50" of the June 2014 Buk convoy, uploaded 25 June 2014;
Right: truck "9115 AH 50" from a screenshot of a video of the 23-25 June 2014 Buk convoy.

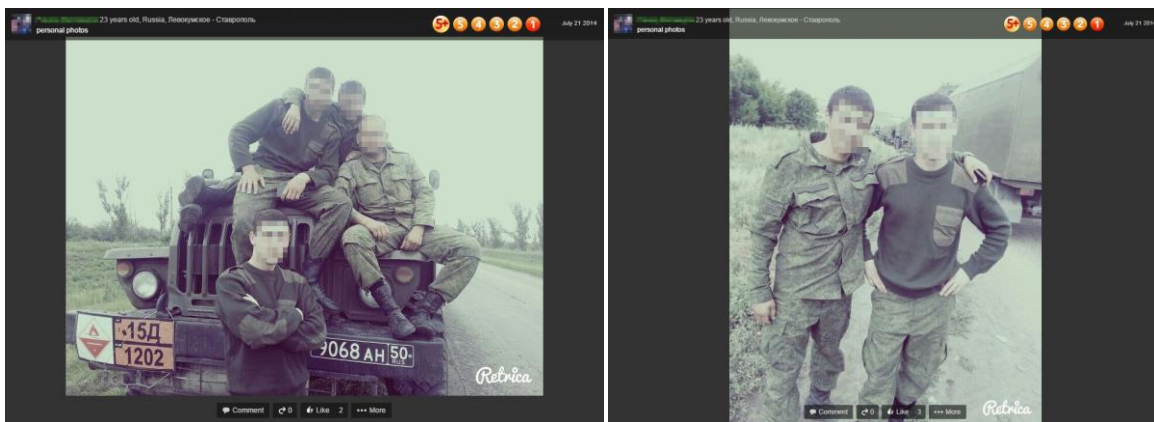
⁷⁹ <http://youtu.be/aLtzYEHolmg?t=135>

A soldier connected to Pavel named Dmitry is photographed standing by a truck near Alexeyevka with a sign displaying the town name in the background; it is on the route of the June 2014 Buk convoy. Another picture shows a truck with the license plate '9106 AH 50,' another truck visible in the June 2014 Buk convoy. Both pictures were uploaded 29 December 2014, but since Dmitry also uploaded Pavel's convoy pictures (in March 2015), the weather conditions in the photographs do not match with those in winter, and given that one of the pictures shows a vehicle from the June 2014 Buk convoy, it is very likely that these pictures were taken in June 2014.



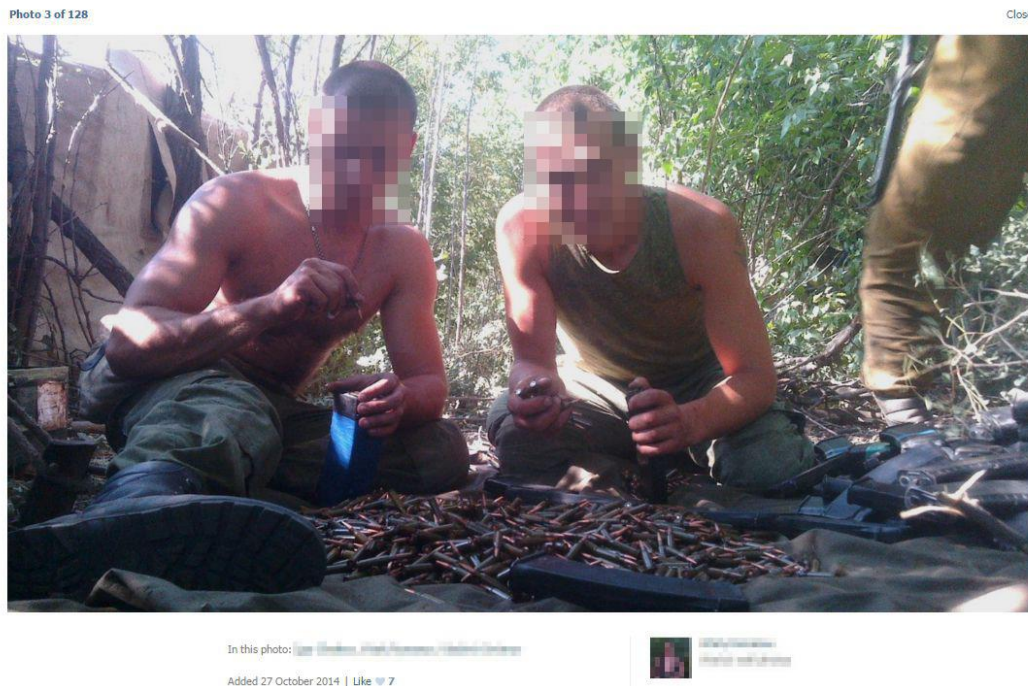
Left: picture taken of a truck of the June 2014 Buk convoy near Alexeyevka, uploaded by Dmitry;
 Right: picture of truck "9106 AH 50," another truck of the June 2014 Buk convoy, uploaded by Dmitry.

Another soldier, Marat, posted pictures of a part of the June 2014 Buk convoy and a vehicle with the same license plate (9068 AH 50) seen in the June 2014 Buk convoy. He is connected to other soldiers of the 53rd Anti-Aircraft Missile Brigade, but he also reacted to a post about the 2nd Battalion in a VK community about Unit 32406 (53rd Brigade).



Left: Marat and three other soldiers on truck '9068 AH 50';
 Right: Marat and another soldier in front of a part of the June 2014 Buk convoy.

A soldier who gives additional information about the June 2014 convoy is Ivan, a contract soldier since 2011 as pictures on his VK profile make clear. One of his connections is Vladimir, a contract soldier or reservist whose VK profile provides his military background since 2010, including service with a unit in Armenia. Vladimir posted some remarkable pictures of what seems to be a border area, uploaded in October 2014, one of them showing Ivan and Vladimir together along with a leg of a soldier named Anton, who is tagged in the photograph.

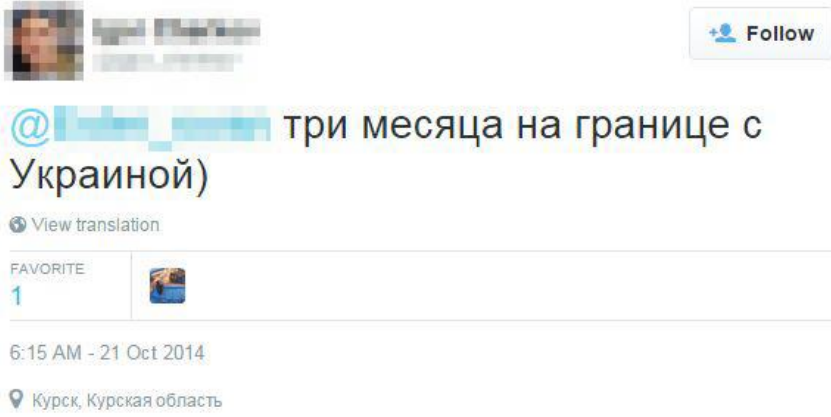


Ivan, Vladimir, and Anton, uploaded by Vladimir on VK, 27 October 2014.

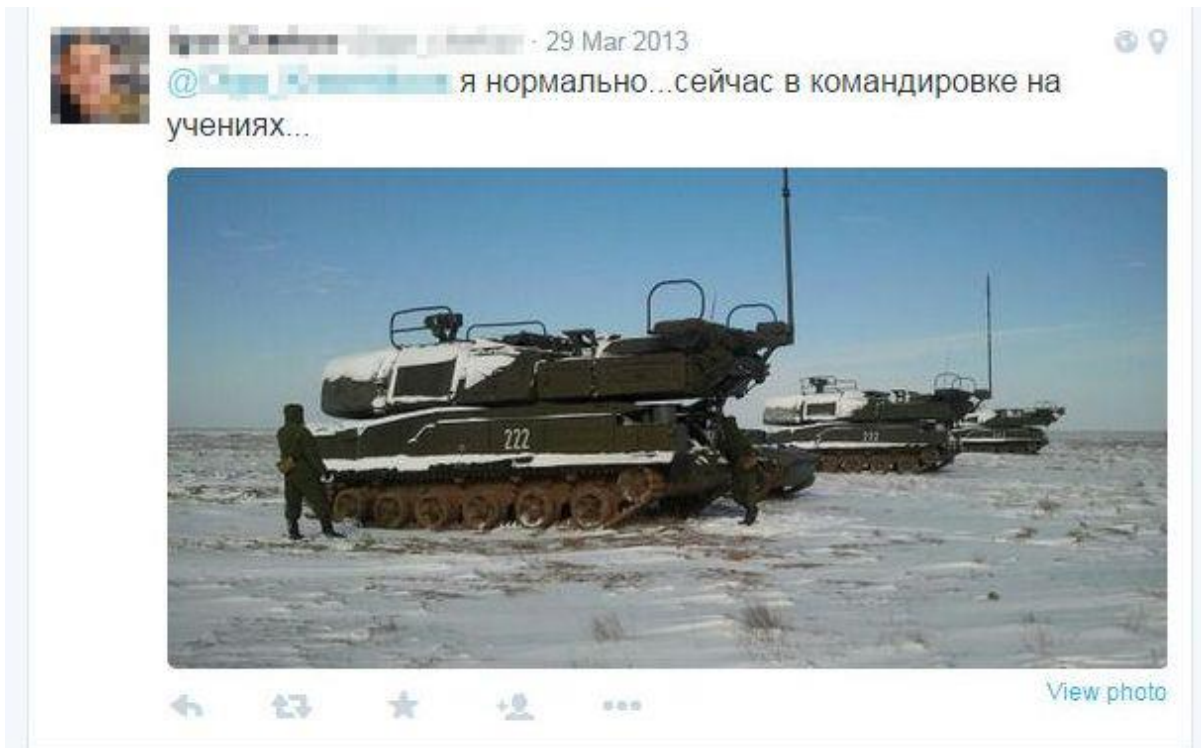
Ivan's VK profile provides no information about the June 2014 convoy, but posts on his Twitter account reveal he did, in fact, take part in that convoy. On 20 June 2014, he posted a message saying that he would be sent to the border. When someone else asked if he was going to the Rostov Oblast, he responded on 24 June 2014, saying that they just passed Alexeyevka. The June 2014 Buk convoy indeed moved through Alexeyevka on 24 June 2014.⁸⁰ A Twitter and VK message on 11 August 2014 makes clear that he missed his girlfriend. On 20 October, he posted a message saying that he is back on Twitter again and responded to a post from someone else saying that he was not there for a long time, and that he could not use Twitter during his business trip. When the other person asked if it was a long trip, he answered saying he was at the border with Ukraine for three months, which corresponds with what was written in the forum of soldiers' mothers and wives.

A Twitter post from 15 March 2013 indicates that Ivan trained in Kapustin Yar for two months, and another post from 29 March 2013 shows Buk missile launchers in the snow in the Astrakhan region, where Kapustin Yar is located.

⁸⁰ <http://bellingcat-vehicles.silk.co/page/0020-Alexeyevka%3A-Buk-convoy-turning-and-merging-1>



Ivan's Twitter post where he wrote that he was at the border with Ukraine for three months, 21 October 2014.



Ivan's Twitter post of 29 March 2013 with images of Buk missile launchers 222, 232, and a third one with an unreadable number in the Astrakhan region, Kapustin Yar training field.

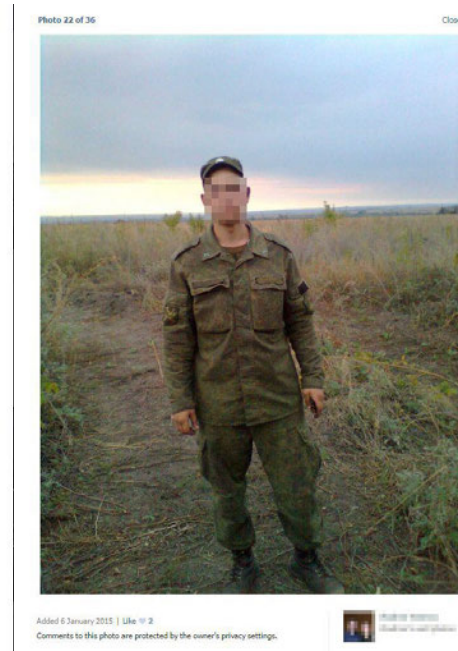
On 22 October 2014 Anton Korobkov-Zemlyansky, a journalist, media producer, TV/radio host and member of the Public Chamber of the Russian Federation (and clearly on the side of the pro-Russian separatists in Ukraine), reacted to Ivan's tweet saying he had been in the area near the border with Ukraine for three months. When Anton asked on 22 October 2014 "How is it there?", Ivan answered on 23 October 2014, "It is terrible there..." Then Anton asked, "They're shooting?" and Ivan answered, "They are shooting))) I won't say anything more... I don't have the right)." And when Anton wrote "yes correct ;)," Ivan responded on 23 October 2014 with "the only thing I can say is that on TV they do not show everything... (and thank God!)"



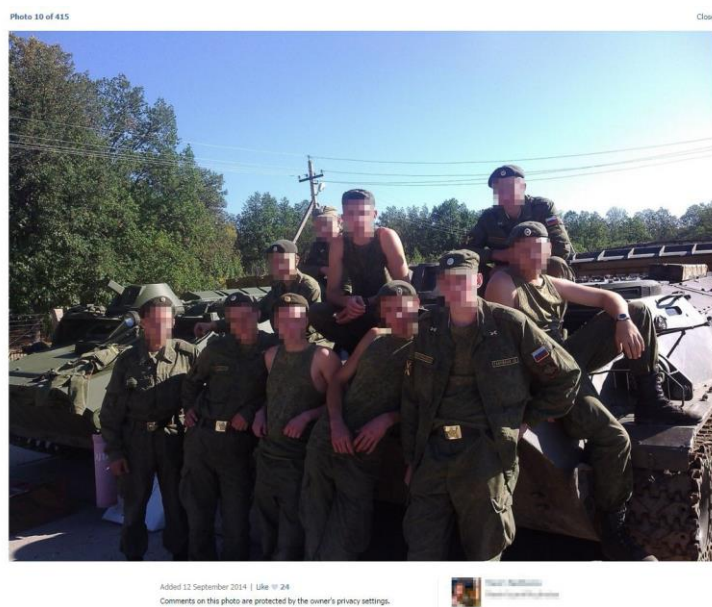
Twitter conversation between Anton and Ivan about "shooting" near the border with Ukraine.

Apparently Ivan was aware of shooting near the border with Ukraine. It is not clear what type of shooting he was referring to (e.g., gunfire, artillery fire, Grad missiles) or by whom (i.e., the pro-Russian separatists, the Ukrainian army, or the Russian army). These messages do not prove that Ivan himself was involved in the shooting or that he was in Ukraine, but they at minimum indicate that he was near the conflict and therefore near the border.

Anton, whose leg was tagged in Vladimir's photograph, was first believed by Bellingcat to be in the 1st Battalion, because he uploaded a photograph on 6 January 2015 of himself inside a Buk missile launcher wearing a helmet with the number 121. However, since he was tagged in a photograph that likely was taken in the summer of 2014 together with Ivan and Vladimir, who were in the 2nd Battalion, Anton likely moved to the 2nd Battalion later. Another photograph in his album, in which he can be seen standing in a field, confirms he was in the 2nd Battalion in the summer of 2014, because one of his connections who also was in the 2nd Battalion, named Sergey uploaded a photograph of the same field on 10 September 2014. Sergey is connected to and photographed together with Pavel (see earlier this Section).

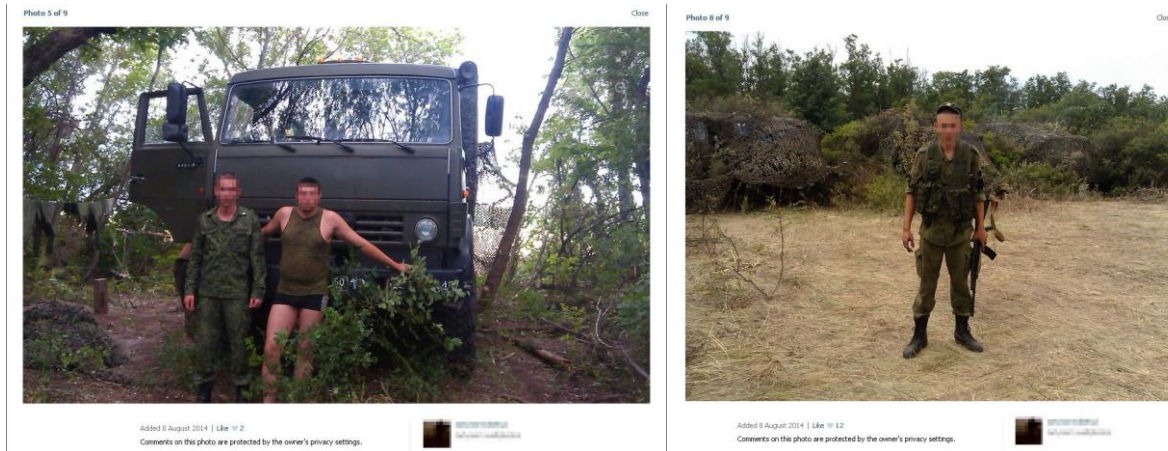


Left: Anton inside a Buk, wearing a 121 helmet, uploaded 6 January 2015; right: Anton, standing in a field, uploaded 6 January 2015 (Anton deleted all his military images sometime in March/April 2015).



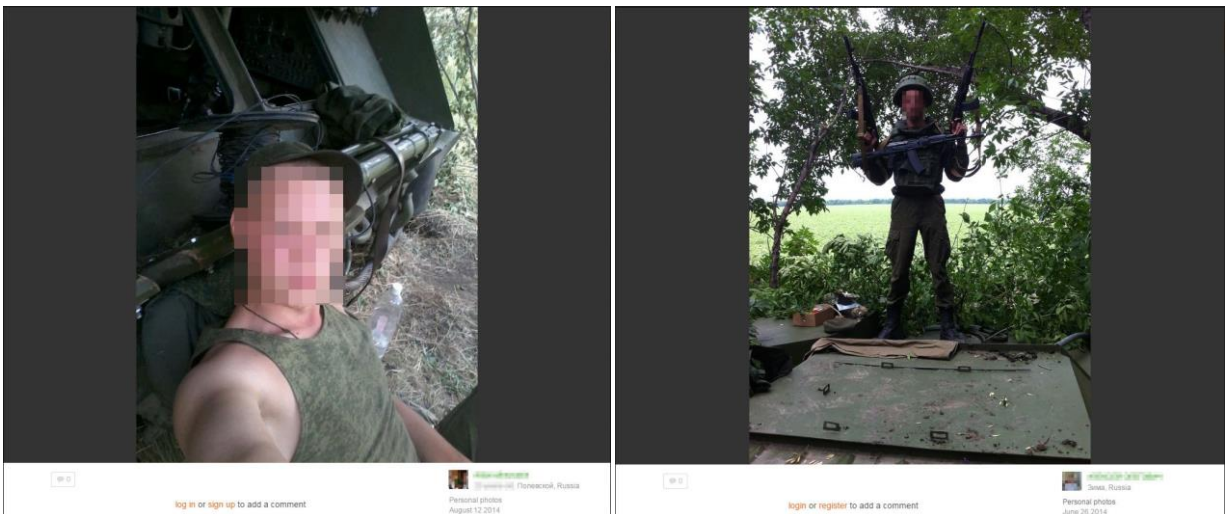
Left: Sergey in a field, uploaded 10 September 2014; right: Sergey, Pavel and other 2nd Battalion soldiers, uploaded by Pavel on 12 September 2014 and Sergey on 18 February 2015.

Other notable photographs were uploaded 8 August 2014 by another soldier of the 2nd Battalion. In these photographs, vehicles likely from the June 2014 convoy can be seen camouflaged in a wooded area.



Left: a truck with a camouflage net behind it in a wooded area;
Right: camouflaged trucks near a wood area. Both images were uploaded 8 August 2014.

Two more 2nd Battalion soldiers posted images of partly visible military vehicles in a rural area during the summer of 2014. One photograph uploaded on 12 August 2014 shows a soldier sitting in front of a Buk missile launcher. The other photograph shows a different soldier standing on top of an unidentified military vehicle, uploaded 26 June 2014. Another photograph uploaded by this soldier on 26 June 2014 confirms he took part in the June 2014 convoy, as a monument near Stary Oskol is visible, a town the convoy went through.



Left: a soldier sitting in front of a Buk missile launcher, 12 August 2014;
Right: another soldier standing on top of an unidentified military vehicle, 26 June 2014.

The Bellingcat team found many more images of soldiers in uniforms and with military equipment in a remote area or in the woods. Remarkably, many of these soldiers are photographed in uniforms without the recognizable 53rd Brigade logo and without name badges. The badges that they are wearing are not black and red like usual, but camouflaged in different shades of green to blend in with the uniform.

A complete overview of all these soldiers would render this report too lengthy; the examples above are the best, unambiguous examples of soldiers who were undoubtedly in the 23-25 June 2014 Buk convoy. It should be noted that there is no direct evidence that any of these soldiers were involved in the downing of MH17. However, there is a chance that some of these soldiers know which soldiers and officers were part of the Buk crew of Buk 3x2, which was transported to Ukraine and very likely responsible for the downing of MH17. Since the mission in Ukraine was likely a highly secret operation, most of the soldiers – especially the conscript soldiers – probably have no idea who were involved. Some of the soldiers of the 2nd Battalion who were in the June 2014 Buk convoy could possibly have been involved, but this conclusion is mainly based on their military experience and their long military history.

However, for some soldiers mentioned earlier this section (i.e., Ivan, Vladimir, and Anton) there is one more reason why they may have been involved in the MH17 tragedy. The photograph that Ivan uploaded in 2013 mainly shows Buk 222, an indication he might have been the operator of that Buk missile launcher in 2013 or at least that he served in the 2nd Battery of the 2nd Battalion. Additionally, the aforementioned soldiers are connected to another 2nd Battalion soldier, Dmitry, who explicitly described himself as part of the 2nd Battery of the 2nd Battalion in May 2014. It is important to know that these soldiers were in the 2nd Battery of the 2nd Battalion because Buk 222 was replaced in the 23-25 June 2014 convoy by Buk 3x2. Therefore, it is a possibility that the soldiers who usually were connected with Buk 222 later operated Buk 3x2 on 17 July 2014. However, this is only a theory; there is no evidence to support it. Section Five describes an officer who might have been in control of Buk 222 in 2014, and, based on the same logic, in control of Buk 3x2 in the summer of 2014.

It must be again clearly noted that for all of the aforementioned soldiers, there is no direct evidence that they were part of the Buk crew that downed MH17.

1st Battalion of the 53rd Brigade in 2014

In Section Two, the 19-21 July 2014 Buk convoy is described as containing three vehicles belonging to the 1st Battalion of the 53rd Anti-Aircraft Missile Brigade (Buk missile launchers 112, 121, and 122). Since the convoy shows a nearly complete Buk system, it is very likely that this convoy consisted entirely of 1st Battalion vehicles, especially taking into account that the 2nd Battalion and some 3rd Battalion vehicles had already been transported to the border three weeks before. This convoy left just two days after the downing of MH17, which may explain why most of the vehicles were covered with tarps.

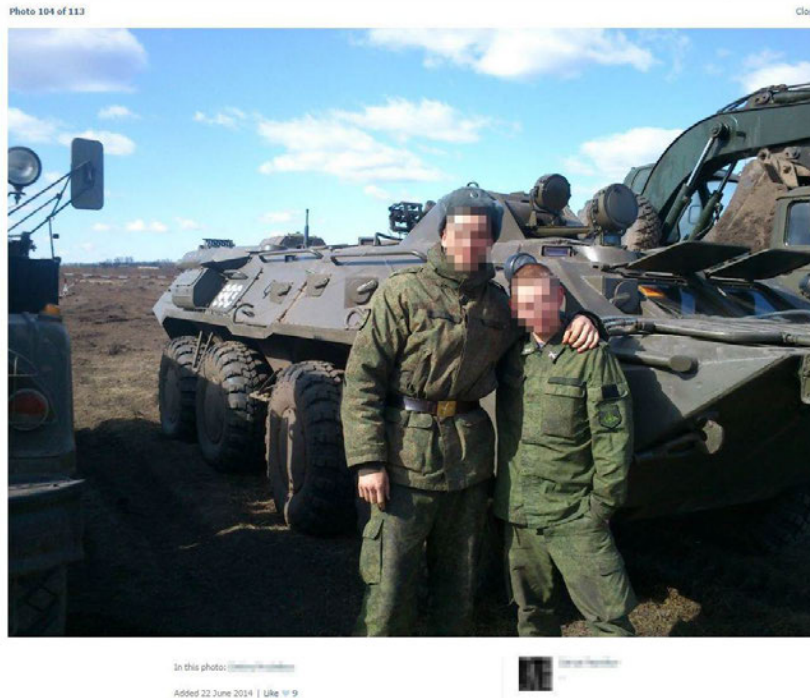
In addition, the soldiers of the 1st Battalion of the 53rd Anti-Aircraft Missile Brigade were apparently more careful with photographing and did not take or did not post images of the convoy on their VK profiles. The Bellingcat team was not able to find photographs of the 19-21 July 2014 Buk convoy, taken by the soldiers or drivers themselves, but did uncover images of 1st Battalion soldiers, uploaded in the summer of 2014, in which they can be seen posing in a field or with Buk vehicles from the 1st Battalion.

One soldier uploaded a picture of himself standing in front of Buk 121, camouflaged by leaves, on 28 August 2014, more than a month after the convoy departed from Kursk.



A soldier with a 121 helmet in front of a camouflaged Buk unit vehicle, 28 August 2014.

Two soldiers could be identified as 53rd Brigade soldiers because of photographs of a BTR numbered 993, the same BTR visible in the 19-21 July 2014 Buk convoy. A short post by one of the soldier's wife on a 53rd Brigade community on Odnoklassniki makes clear that he was in the 1st Battalion of the 53rd Brigade.

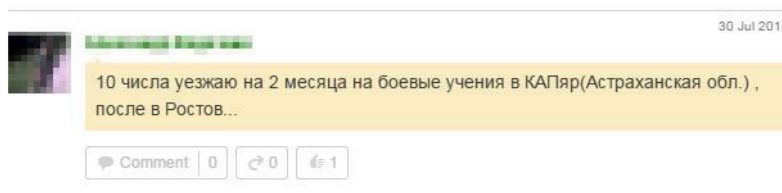


Two soldiers in front of BTR 993, a vehicle that was part of the 19-21 July 2014 Buk convoy, photograph uploaded 22 June 2014.

Another soldier of the 1st Battalion provided additional information about the time spent in the border area and the next destination after the Rostov Oblast. He wrote on the wall of his Odnoklassniki profile that he was in the 53rd Anti-Aircraft Missile Brigade on 8 June 2014 and that he was in the 1st Battalion, 2nd Battery on 18 June 2014. He also divulged that “on the 10th he would leave for 2 months for Kapustin Yar (Astrakhanskaya Oblast) after Rostov.” Given that he wrote this on 30 July 2014, his reference to ‘the 10th’ is very likely in reference to 10 August 2014.



Post on the soldier’s Odnoklassniki wall about being in the 1st Battalion, 2nd Battery, 18 June 2014.

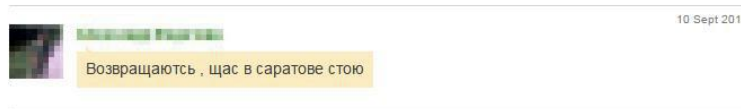


Post on the soldier’s wall where he wrote he would leave on the 10th for 2 months for Kapustin Yar after Rostov, 30 July 2014.

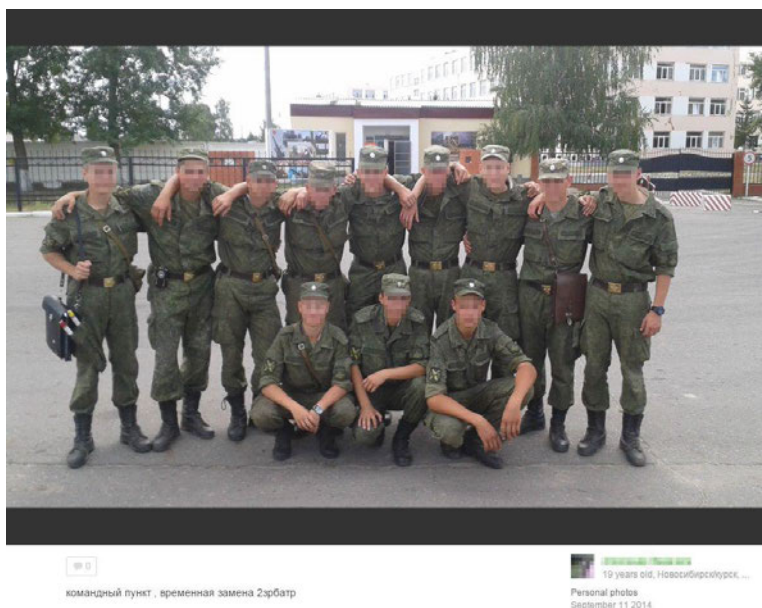


Picture of the soldier in front of Buk missile launcher 132, uploaded 10 July 2014.

However, according to another post on his wall, they had already returned from Kapustin Yar on 10 September 2014, so they were there one month instead of two months.



Post on the soldier's wall where he wrote, "Returning, I am now in Saratov," 10 September 2014.



Picture of a group of soldiers, in front of the military base of the 53rd Anti-Aircraft Missile Brigade, with the caption, "command post, temporary replacement of the 2nd Battery," uploaded 11 September 2014.

Another soldier who very likely was in the 1st Battalion uploaded a photograph of himself sitting on a BTR numbered 993, the same BTR that was in the 19-21 July 2014 convoy and displayed in the photograph of two other soldiers, that was uploaded 22 June 2014. This photograph was uploaded on 13 July 2014, when the 2nd Battalion had already been in the Rostov Oblast for two weeks, and six days before the 1st Battalion would depart for the Rostov Oblast as well.

In addition to the attendance list of 3rd Battalion soldiers, a photograph of an officer was found in the photo album of students of a technical university (see Section Four). This officer, named Alexander, was probably in the 1st Battalion as well, because he provided training to a cadet wearing a helmet numbered 131 inside of a Buk missile launcher. Another possibility is that he was an officer who specialized in training cadets, and a Buk missile launcher from the 1st Battalion was temporarily used for training. Regardless, Alexander was likely not in the 2nd Battalion. Section Five describes the results of a thorough investigation into commanders and officers of mainly the 2nd Battalion.



Added 13 July 2014 | Like 13
Comments on this photo are protected by the owner's privacy settings.



Added 3 August 2014 | Like 10
Your comment

Left: a soldier sitting on BTR 993, which was part of the 19-21 July 2014 convoy (1st Battalion), uploaded 13 July 2014;
Right: Lieutenant Alexander N. inside of Buk missile launcher 131, as the number on the helmet of the cadet indicates, photograph uploaded 3 August 2014, but taken earlier, as the 1st Battalion vehicles left the base on 19 July 2014 (Section Four further shows that this photograph was taken earlier, in July 2014).

The identification of 1st Battalion soldiers might seem less important, as they were not part of the 23-25 June 2014 Buk convoy that transported Buk 3x2. But it is important to rule these individuals out as being culpable for the downing of MH17. Because these soldiers were part of the 19-21 July 2014 Buk convoy that transported the 1st Battalion Buk vehicles, it can be established with certainty that they were not involved in the MH17 tragedy.

Section Four: Cadets at the 53rd Anti-Aircraft Missile Brigade

MATI Cadets

During the first few months of Bellingcat's investigation into the 53rd Anti-Aircraft Missile Brigade, a VK community was found of technical university students who participated in a training event at the 53rd Brigade's base in the summer of 2014.

This technical university was originally called the Moscow Aviation Technology Institute (MATI); later, the name Russian State Technical University (short for 'Russian State Technological University,' named after K.E. Tsiolkovsky) was added.⁸¹ This university primarily focuses on engineering and other technical subjects, particularly those related to aerospace and aeronautics.

MATI also has an Institute of Military Training (**Институт военной подготовки**),⁸² which is tasked with preparing its students for roles as officers and reserve officers in the Russian military. As we show below, some students are selected to travel to Russian military bases with anti-aircraft systems and spend approximately one month training on the systems and conducting military drills as a part of its curriculum.

One of the web pages for the Institute of Military Training at MATI states that it prepares reserve officers to become "detachment commanders of the self-propelled missile launcher (SDA) AAMS Buk-M1" (**начальник расчёта самоходной огневой установки (СОУ) ЗРК «БУК-М1»**).⁸³ With tragic irony, the MATI website also boasts Boeing as a partner.⁸⁴

MATI – mainly located in Moscow – consists of four branches: three in Moscow and one in Stupino, about 100 kilometers south of Moscow.⁸⁵ The VK community of MATI students who trained at the 53rd Anti-Aircraft Missile Brigade shows members who seem to live mostly in Moscow and Stupino. It is unknown whether it was mostly cadets from the Stupino branch of MATI who traveled to Kursk in 2014; however, this is most likely the case since the majority of the images were uploaded by cadets from Stupino.

The images in the VK community were all uploaded in early August 2014, but it can be established that MATI cadets were in Kursk in June and July 2014 based on images and posts from their own VK profiles and some Instagram posts. The most obvious evidence that shows exactly when these cadets trained at the 53rd Brigade are two images of certificates, uploaded 25 July 2014 by two different cadets. These certificates note that "Training sessions took place from June 22 to July 25, 2014, at military Unit 32406 for the position of detachment commander" (**Учебные сборы прошел с 22 июня по 25 июля 2014 года при войсковой части 32406 в должности начальника расчёта**). They also show that the cadets were promoted to the rank of lieutenant and the certificates were signed by the commander of military Unit 32406 (the 53rd Anti-Air Missile Brigade), Colonel S. Muchkaev, and the head of the faculty of military training, Colonel A. Sagula.

⁸¹ <http://eng.mati.ru>
<http://eng.mati.ru/index.php/university-history.html>
see also: http://en.wikipedia.org/wiki/Moscow_State_Aviation_Technological_University

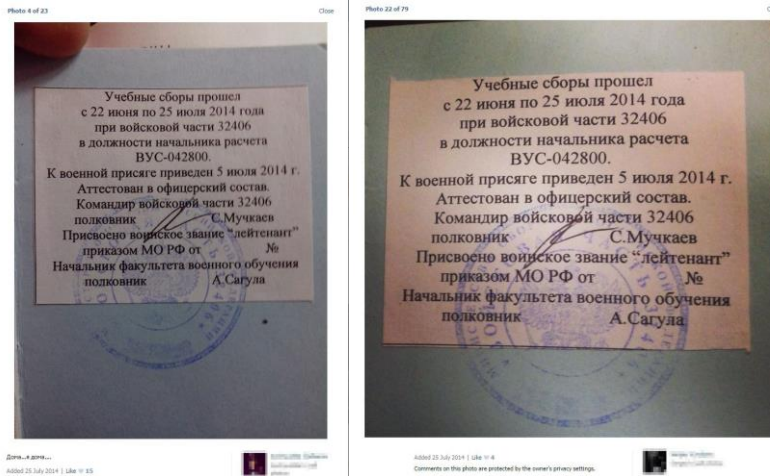
⁸² <http://mati.ru/index.php/instituty/institut-voennogo-obucheniya>

⁸³ <http://voenkaf.ru/fvo>

⁸⁴ <http://eng.mati.ru/index.php/partners.html>

⁸⁵ <http://mati.ru/index.php/o-mati>
<http://www.sfmati.ru>

One more interesting detail about the certificates is the code 'вус-042800,' where 'вус' stands for "Военно-учётная специальность," which translates to "military occupation specialty." The whole code refers to "вооруженных зенитными ракетными комплексами средней дальности," which translates to "medium range systems armed with anti-aircraft missiles."⁸⁶



Left: certificate posted by a MATI cadet, 25 July 2014; right: certificate posted by another MATI cadet, 25 July 2014.

Photographs uploaded to the VK community and individual cadets' own albums illustrate the cadets' month-long training endeavor at the base of the 53rd Brigade in great detail. Many photographs show the cadets next to or inside Buk missile launchers; others show cadets performing shooting exercises, taking an exam, eating lunch, playing games, etc.



Left: MATI cadets and an officer next to a Buk missile launcher, from the MATI VK community album, 3 August 2014;
Right: a MATI cadet next to an unnumbered Buk missile launcher, 17 July 2014.

⁸⁶ <http://www.ulstu.ru/main?cmd=file&object=11425>
<http://archive.is/FIUgq>

Some of the photographs show vehicles such as the Buk missile launchers 132 and 122 and the BTR 80 (numbered 993) connected to the first battalion and visible in the 19-21 July 2014 Buk convoy. Another notable vehicle is Buk Control Unit 300, that belongs to the 3rd Battalion, which was partially disbanded in 2014. A photograph of two cadets wearing helmets with the number 300 is particularly noteworthy, as both photographs provide evidence that most Buk unit vehicles of the 3rd Battalion remained at the base of the 53rd Brigade during the summer of 2014.



Location: postok Marshala Zhukova, Russian Federation
 Added 3 August 2014 | Like 10

Added 3 August 2014 | Like 10
 Unlisted



Location: imeni Marshala Zhukova, Russian Federation
 Added 3 August 2014 | Like 10

Added 3 August 2014 | Like 10
 Unlisted

Left: a MATI cadet, on the background Buk missile launcher 122 and Buk control unit 300; right: a MATI cadet in front of BTR 80 with number 993. Both images uploaded 3 August 2014, but taken earlier in June or July 2014.



Added 12 July 2014 | Like 35
 Comments on this photo are protected by the owner's privacy settings.

Added 12 July 2014 | Like 35
 Unlisted



Added 17 July 2014 | Like 9

Added 17 July 2014 | Like 9
 Unlisted

Left: a MATI cadet in front of Buk missile launcher 132, uploaded 12 July 2014;
 Right: MATI cadets, wearing helmets with number 300, uploaded 17 July 2014.

Closer examination of the MATI students' photographs on the 2014 MATI Kursk VK community reveals interesting details related to conscript soldiers and both of the 2014 Buk convoys. The first photograph, already described in full detail in Section Three, shows an attendance list of conscript soldiers belonging to the 3rd Battalion in 2014. The second and third photographs show some soldiers covering a Buk missile launcher under a tarp. Further examination of these photographs shows these soldiers have a badge with the symbol of the 53rd Brigade on their right sleeve, which is common for soldiers of the 53rd Brigade, but not for MATI cadets, who would only wear the letter "K" (from the Russian word "курсант," which means "cadet") on their sleeve. It is very possible the MATI cadets witnessed first battalion soldiers putting tarps on Buk unit vehicles before they left on 19 July 2014. A fourth remarkable photograph found in an album of one of the MATI cadets shows trucks and a 53rd Brigade officer, recognizable by a few stars and a badge with the symbol of the brigade visible on his uniform. In fact, that officer is a senior lieutenant named Alexander N., who is described in Section Three (with regard to the 2014 first battalion) and who will be described in Section Five too. A MATI cadet also photographed Alexander N. inside of Buk missile launcher 131 sitting next to another MATI cadet. Since the MATI cadets were at the 53rd Brigade base from 22 June to 25 July 2014, these two photographs provide evidence that Alexander N. was either in the 3rd Battalion in the summer of 2014 to train the MATI cadets or was in the 1st Battalion and left the base on 19 July 2014. That is, unless both photographs were taken on 22 June or the morning of 23 June. It is quite remarkable that one of the vehicles visible in the fourth photograph has a license plate that starts with 6757, since one of the 23-25 June 2014 Buk convoy vehicles has license plate '6757 AT 50,'⁸⁷ very likely the same vehicle. Therefore, either this vehicle just returned to the base of the 53rd Brigade, or this MATI cadet witnessed the departure of the 2nd Battalion on 23 June 2014.



Location: поселок Маршала Жукова, Russian Federation

Added 3 August 2014 | Like



Added 12 January 2015 | Like

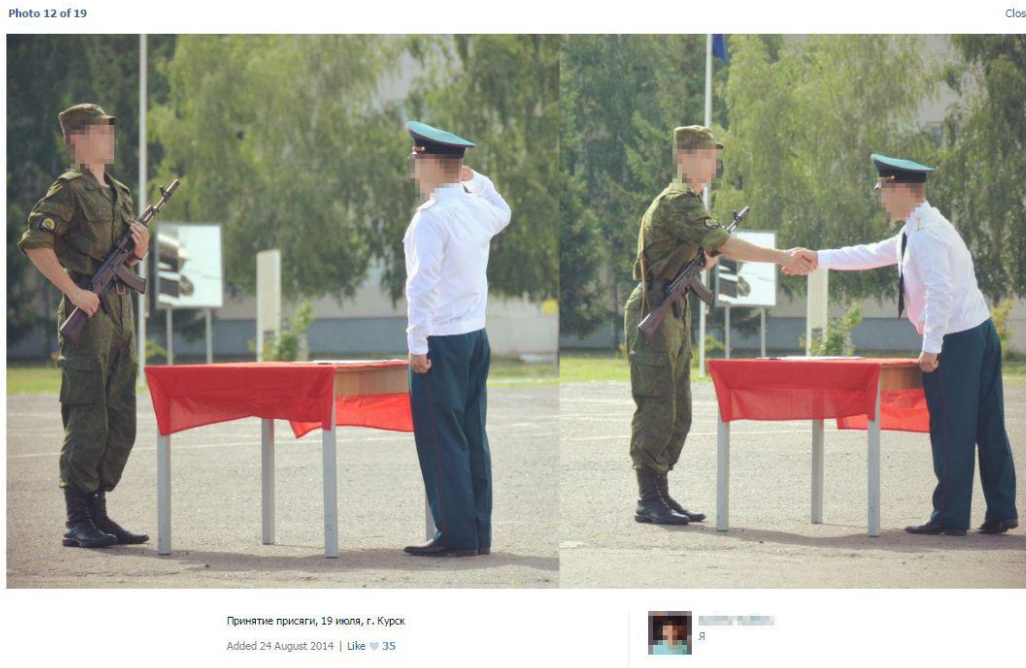
Left: 53rd Brigade soldiers covering a Buk missile launcher, from MATI VK community, taken in June or July 2014;
 Right: Senior Lieutenant Alexander N. and some trucks, one of them having a license starting with '6757,'
 photograph uploaded 12 January 2015, but taken in June or July 2014.

⁸⁷ <http://bellingcat-vehicles.silk.co/page/0019-Raskhovets%3A-Buk-convoy-on-the-highway>
<http://youtu.be/aLtzYEHolmg?t=146>

MIET Cadets

Another technical university, which is now called the National Research University of Electronic Technology, but was originally called the Moscow Institute of Electronic Technology (MIET),⁸⁸ also has a military component as a part of its academic curriculum.⁸⁹ This university is located in Zelenograd, 40 kilometers northwest of Moscow. Similarly, MIET has its own cadets that conduct training missions with active military units.

Some of these cadets traveled to the 53rd Anti-Aircraft Brigade's base in the summer of 2014, which becomes clear upon examination of photographs uploaded by cadets who are members of a VK community dedicated to their visit of the 53rd Brigade in 2014. Given the upload dates on several photos posted by MIET cadets, it appears the cadets visited the 53rd Brigade in July and August 2014. The precise date that MIET cadets started their training with the 53rd Anti-Aircraft Brigade is not known; however, they took their oaths on July 19, 2014.⁹⁰



"Taking the oath, 19 July 2014, Kursk," photograph uploaded 24 August 2014 by a MIET cadet.

Because the MIET students visited during the summer of 2014, photographs and other information from their trip also helps shed light on the 53rd Anti-Aircraft Missile Brigade's summer mobilization, since we can see personnel from the 53rd Brigade interacting with MIET cadets. The MIET website depicts the insignia for its military program, which can be used to identify MIET cadets since they wear this insignia on the right arm of their uniforms.

⁸⁸ <http://eng.miet.ru/content/e/10319>

⁸⁹ <http://www.miet.ru/structure/s/270>

<http://vk.miet.ru>

⁹⁰ <http://archive.is/9R406>



Left: MIET military insignia, as seen on the university's website;⁹¹
Right: A MIET cadet wearing the unit patch (circled) on his uniform.

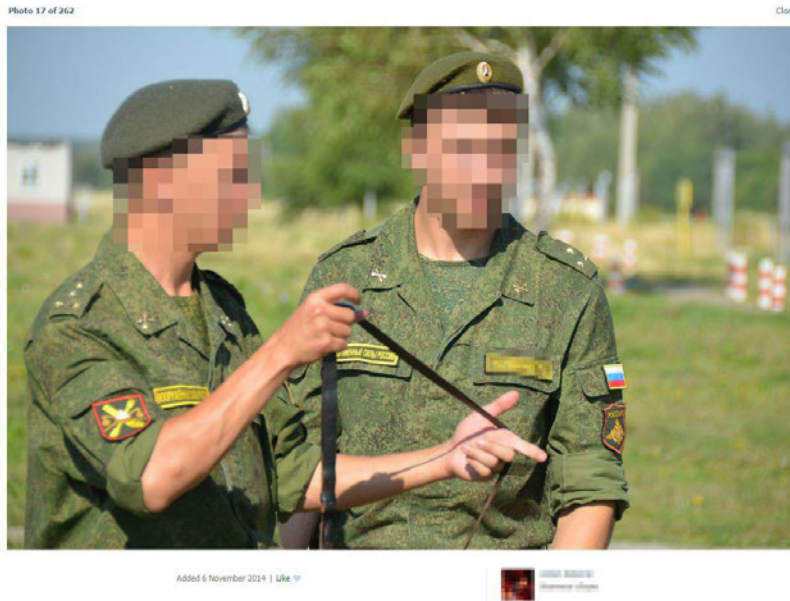
The majority of known MIET cadets who were at the 53rd Brigade base in the summer of 2014 did not post many photos of the base, but a few of the photos that were posted reveal some additional information. For example, Buk missile loader 333 is unlikely to have moved from the 53rd Brigade's base because it was photographed by a MIET cadet and uploaded to his social media account in November 2014. It should be noted, however, that this photograph was taken much earlier than it was uploaded, since MIET students were at the base in July and August 2014.



Buk missile loader 333 at the 53rd Brigade base, uploaded 6 November 2014, but taken in July or August 2014.

⁹¹ <http://www.miet.ru/structure/s/270>

A photograph in the album of the same MIET cadet shows two officers, who can be identified as Grigory M., a senior lieutenant, and Marat Y., a captain. These officers were very likely not in the 1st or 2nd Battalion, since they were at the base of the 53rd Brigade training MIET cadets in the summer of 2014.



Captain Marat Y. (left) and senior lieutenant Grigory M., uploaded 6 November 2014, but the photograph was taken in July or August 2014.

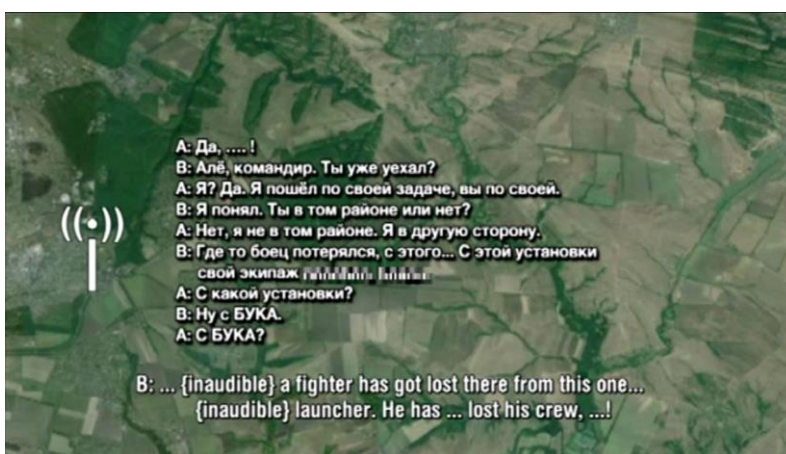
The fact that the aforementioned officers stayed at the 53rd Brigade's base near Kursk is important to know, because only officers in the 1st and 2nd Battalions left the base with the June and July 2014 Buk convoys.

The next section describes commanders of the 53 Brigade who were possibly involved in the June and July 2014 Buk convoys.

Section Five: Commanders of the 53rd Anti-Aircraft Missile Brigade

Introduction

The required number of crew members required to operate a Buk-M1 missile launcher is four, as described in Section One. The crew consists of two officers: one detachment commander (**начальник расчёта**),⁹² who is a lieutenant (a commissioned officer) and a sergeant (a non-commissioned officer).⁹³ The two other crew members are an operator, who is a common soldier, and a driver, who is also a soldier. Since the number of crew members operating the Buk missile launcher related to the downing of MH17 is not known, it is difficult to determine whether the ranks of the crew members were exactly as mentioned above. It could be that there were fewer crew members, but it is very unlikely that the crew consisted of only one or two members, as operating a Buk missile launcher with only one person is very difficult and requires more than one year of experience in operating the system,⁹⁴ as described in an interview with a high officer of the Air Defense of the Russian Army. Also, if the missile launcher was manned with Russian soldiers, it is very unlikely that the crew had no commissioned officer because a non-commissioned officer does not have the decision-making authority to fire a missile. An intercepted phone conversation published in a Joint Investigation Team (JIT) video makes it clear that the crew consisted of several members, since one of the members was separated from his crew and was accidentally left behind in Snizhne.⁹⁵



Screenshot from the JIT video showing a conversation between two separatists about a crew member who lost his crew.

The lieutenant – the commissioned officer of the Buk missile launcher – makes the decision to fire a missile; in the case of the downing of MH17, he would be more to blame than the operator who pressed the button. The lieutenant, however, receives his instructions from the battery commander, who would be a major or a captain. The battery commander receives instructions from the battalion commander, a lieutenant colonel; the highest rank within the brigade is the brigade commander, a colonel.⁹⁶

⁹² <http://recrut.mil.ru/career/conscription/post/position/info.htm?id=591@BasePost>

⁹³ http://army-vt.mitm.ru/zakon.files/ovp/charter/uvs/pril_3.htm

see also: [http://en.wikipedia.org/wiki/Officer_\(armed_forces\)](http://en.wikipedia.org/wiki/Officer_(armed_forces))

see also: http://en.wikipedia.org/wiki/Non-commissioned_officer

⁹⁴ http://vpk.name/news/114383_bez_sledov_i_svidetelei.html

⁹⁵ <http://youtu.be/oIQNpTxSnTo?t=332>

⁹⁶ <http://www.hierarchystructure.com/russian-military-hierarchy>

<http://www.soldiering.ru/other/regulations/russia/vnutr/html05.php>

On 30 January 2015, the Ukrainian news site Censor.net published a photograph of a repainted Buk missile launcher, as well as a list of names of commanders of the 53rd Anti-Aircraft Missile Brigade.⁹⁷ These names were found in a VK community of the 53rd Anti-Aircraft Missile Brigade. The article mentions that the previous commander of the 53rd Anti-Aircraft Missile Brigade, Aleksey Yuryevich Zolotov, became Chief of Air Defense Forces; the commander of the 53rd Anti-Aircraft Missile Brigade in 2014 was Sergey Borisovich Muchkaev; and the surname of the commander of the 2nd Battalion in 2014 was Agibalov. On 9 February 2015, Censor.net added the full name of this commander, Artyom Agibalov, and the name of the commander of the 3rd Battalion, Roman Ivanovich Gorlatykh.⁹⁸ This information was found in another VK community about the 53rd Anti-Aircraft Missile Brigade.

These names do not only appear in VK communities; later in this section, we describe how they are also mentioned on more official sources, such as television interviews, sbis.ru,⁹⁹ which claims that the information is obtained from official sources, and adm.rkursk.ru,¹⁰⁰ the official site of administration for the Kursk region. Posts in VK communities and in an Odnoklassniki group about the 53rd Anti-Aircraft Missile Brigade reveal many more names of officers, described in this section. It should be noted that many officers were apparently no longer part of the 53rd Anti-Aircraft Missile Brigade in 2014; when asked on one of these online communities if, for example, a certain officer was still there, soldiers often answered that the officer in question had moved to another unit.

The Bellingcat team has found many profiles of commanders and junior officers from the 53rd Anti-Aircraft Missile Brigade; some because their names were mentioned in VK communities or the Odnoklassniki group, others because they are members of these groups themselves, and most via the profiles of soldiers who were in the 53rd Anti-Aircraft Missile Brigade in 2013 and 2014 (see Section Three). During the search process for soldiers of the 53rd Brigade, profiles were found of officers, made recognizable by their uniforms. The uniforms of the Russian Army display, like military uniforms of other countries, stars and stripes with the rank of the officer noted by the amount of stars and stripes. The non-commissioned officers (sergeants and warrant officers) have no stripes, only stars; the junior officers (lieutenants and captains) have one stripe and a set of stars; the senior officers (majors, lieutenant colonels, and colonels) have two stripes and stars; and the supreme officers have a decorated pattern and bigger, gold-colored stars.¹⁰¹ However, the 53rd Anti-Aircraft Missile Brigade does not have supreme officers since the highest rank is a colonel; therefore, these types of shoulder straps were not found on images of uniforms of officers from the 53rd Brigade. Apart from stars and stripes, the officers have three types of uniforms with different looking shoulder straps: a parade uniform (usually blue with yellow shoulder straps), an everyday uniform (green with green shoulder straps, red stripes, and yellow stars), and a field uniform (camouflaged green, no shoulder straps, no stripes, smaller grey stars). The difference between non-commissioned officers and junior officers can be seen by the way the stars are ordered on the uniform.

⁹⁷ http://censor.net.ua/forum/753625/novye_podrobnosti_s_bukom_rf_posle_vyvozki_v_rossiyu_buk_perekrasili

⁹⁸ http://censor.net.ua/forum/755432/buk_pod_nomerom_322

⁹⁹ <http://www.sbis.ru/>

¹⁰⁰ <http://adm.rkursk.ru>

¹⁰¹ <http://goup32441.narod.ru/files/ovu/forma/prikaz-1500.htm>
<http://21stcenturywarfare.forumotion.com/t81-russian-army-ranks>
<http://www.rg.ru/2010/03/12/forma-dok.html>
<http://dic.academic.ru/dic.nsf/ruwiki/156492>

see also: http://en.wikipedia.org/wiki/Army_ranks_and_insignia_of_the_Russian_Federation

see also: http://ru.wikipedia.org/wiki/Воинские_звания_в_Вооружённых_Силах_Российской_Федерации

Призывной и контрактный состав (кроме ВМФ)							Прапорщики	
	Солдаты и матросы		Сержанты и старшины					
Погоны к парадной форме одежды								
Звание	Рядовой	Ефрейтор	Мл. сержант	Сержант	Ст. сержант	Старшина	Прапорщик	Ст. прапорщик
Погоны к полевой форме одежды								

Army ranks and insignia of the Russian army (except navy) from the Russian version of the page on Wikipedia (information confirmed with help of government sources, see footnotes): in the left column are soldiers (private and private first class), in the middle column are sergeants (junior sergeant, sergeant, senior sergeant, master sergeant), and in the right are column warrant officers (warrant officer, senior warrant officer). The ranks and insignia are above the shoulder straps for everyday uniforms, under the shoulder straps for field uniforms.

Офицерский состав (кроме ВМФ)												
	Младшие офицеры				Старшие офицеры			Высшие офицеры				
Погоны к повседневной форме одежды												
Звание	Мл. лейтенант	Лейтенант	Ст. лейтенант	Капитан	Майор	Подполковник	Полковник	Генерал-майор	Генерал-лейтенант	Генерал-полковник	Генерал армии ^[4]	Маршал Российской Федерации
Погоны к полевой форме одежды												

Army ranks and insignia of the Russian army (except Navy) from the Russian version of the page on Wikipedia (information confirmed with government sources, see footnotes): in the left column are junior officers (junior lieutenant, lieutenant, senior lieutenant, captain), in the middle column are senior officers (major, lieutenant-colonel, colonel), and in the right column are supreme officers (major general, lieutenant general, colonel general, army general and marshal of the Russian Federation). The ranks and insignia are above the shoulder straps for every day uniforms, under the shoulder straps for field uniforms.

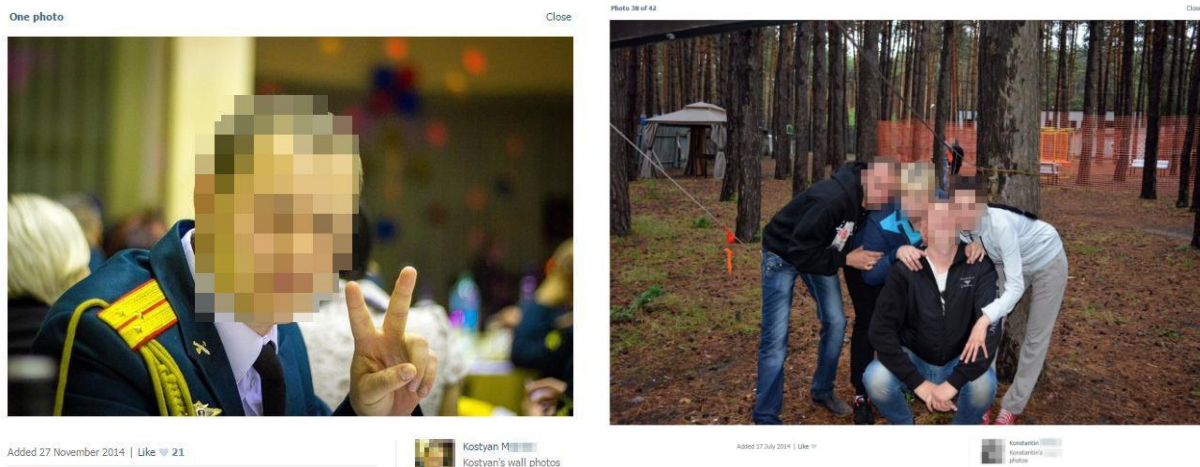


Shoulder straps of a lieutenant-colonel from a parade uniform (left), an everyday uniform (middle), and a field uniform.

Buk Unit Commanders of the 2nd Battalion in 2014

The first officers the Bellingcat team found on VK are those connected to soldiers of the 2nd Battalion who were in service in 2013 – the soldiers on the two attendance lists (see Section Two). Konstantin M. was photographed together with soldiers of the 2nd Battalion in 2013 (see Section Three). A photograph, uploaded 28 November 2014 on his own profile, shows that he was still a commander by the end of 2014, and that he was then a senior lieutenant. Some of the soldiers he is connected to on VK were in the 1st Battery and have uploaded photographs of Buk missile launcher 211, so it is likely that he was a commander in the 1st Battery of the 2nd Battalion, at least in 2013.

In Konstantin's saved photos album, a few photographs are dated 17 July 2014. In these photographs, Konstantin M. is visible with his wife, another officer identified as Sergey P., who will be described later in this section, and another woman (Sergey P.'s wife). Since Konstantin M. was commander in the 2nd Battalion in 2014, it is very likely he took part in the June 2014 Buk convoy and was in the Rostov Oblast in the summer of 2014. The 17 July 2014 photographs, however, seem not to have been taken in the Rostov Oblast on or around July 17, 2014. This is because the officers are not wearing their uniforms and Konstantin's wife, who very likely also works for the 53rd Brigade, did not go to the Rostov Oblast, as images she uploaded in her VK album on 26 June 2014 from Belgorod make clear. Additionally, the clothes worn by the people in the photograph indicate that it is not summer, as the temperature in Kursk on 17 July 2014 was around 30 degrees Celsius.¹⁰² It seems more likely that photographs were taken in spring or autumn and uploaded on the day of the MH17 tragedy.



Left: Konstantin M, a senior lieutenant of the 2nd Battalion of the 53rd Brigade, image uploaded 28 November 2014 and since deleted (Konstantin M. deleted all of his military photographs in January 2016).

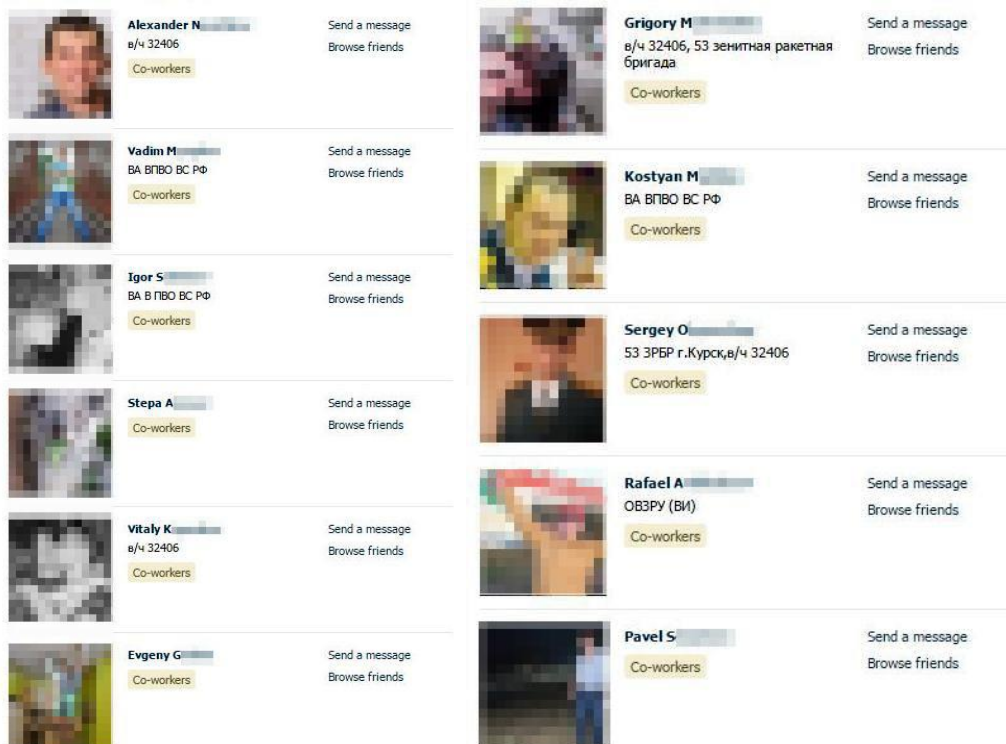
Right: Sergey P, Sergey P.'s wife, Konstantin M. and Konstantin M.'s wife, uploaded 17 July 2014.

Via Konstantin M.'s profile and searching elsewhere on VK, other officers were found, including Evgeny M., who describes himself as being in Unit 32406 (the 53rd Anti-Aircraft Missile Brigade) and who categorizes eleven of his contacts as co-workers. On his profile, a photograph uploaded in 2012 of himself in uniform and his wife, makes it clear that he was a lieutenant at that time. While he does not share information about himself being in the military in social media, photographs from his connections make clear that he was an officer in the 2nd Battalion in July 2014. What is noteworthy is that he is connected to a soldier of the 2nd Battery of the 2nd Battalion who was certainly in the 23-25 June 2014 Buk convoy and Rostov oblast in the summer of 2014 (see Section Three).

¹⁰² <http://archive.is/jbEYz>



Evgeny M., a lieutenant of the 2nd Battalion of the 53rd Brigade, image uploaded 18 June 2012.

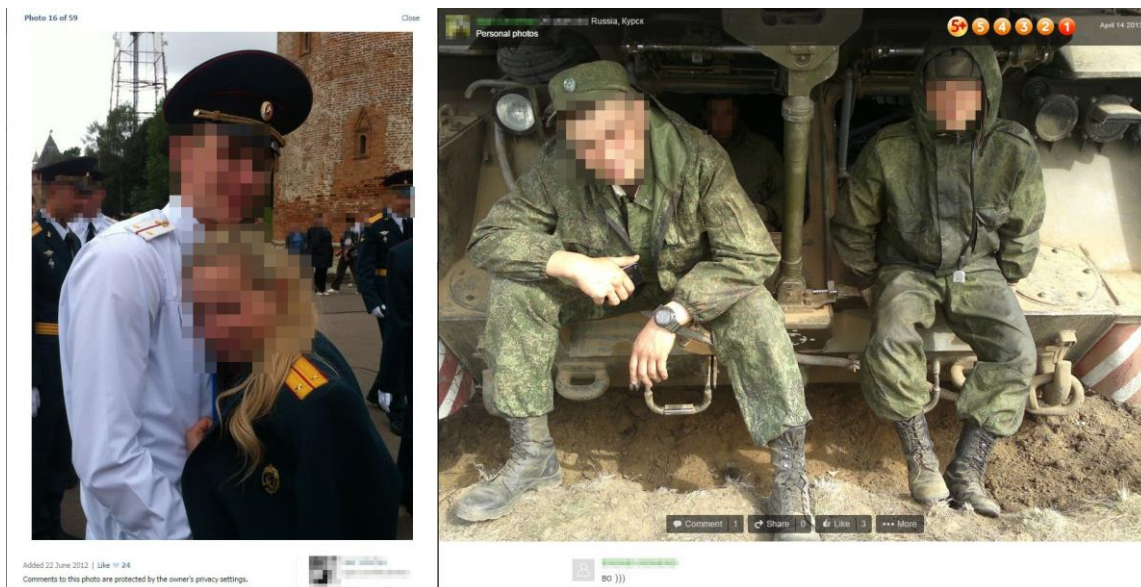


Eleven 'co-workers' from Evgeny M.'s VK contacts list, four of them describe themselves as being in Unit 32406 (the 53rd Anti-Aircraft Missile Brigade).

Most of the profiles of Evgeny's eleven co-workers do not display any military activities in 2014, and, from their photographs, it is not immediately clear whether they are or were in service with the 53rd Anti-Aircraft Missile Brigade.

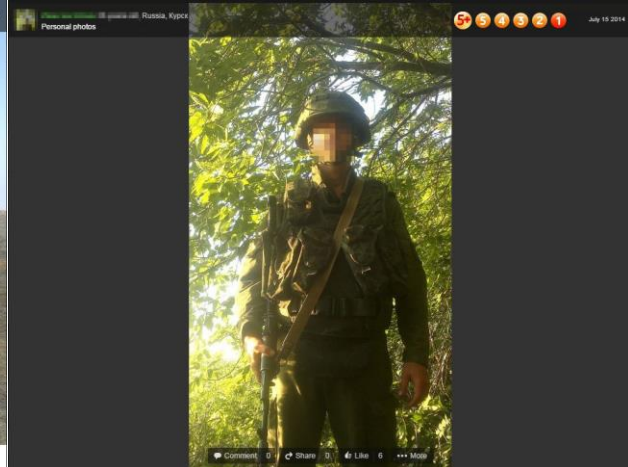
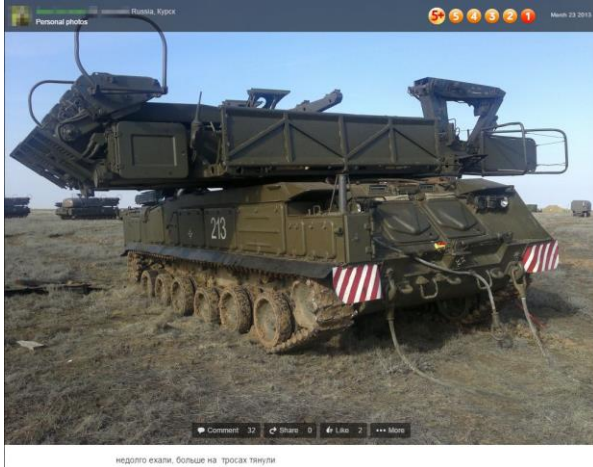
One co-worker's profile (Stepa A.) does not display any military photographs at all. Via Evgeny's profile on Odnoklassniki, we find the same co-worker listed as 'Stepan S. A.'; a photograph on his mother's profile shows he became a lieutenant in 2011. His connections, both on Odnoklassniki and on VK, indicate that he is an officer in the 53rd Anti-Aircraft Missile Brigade. However, photographs found on profiles of other officers made it clear that Stepan's wedding was on or just before 20 July 2014, so he very likely was not in the 2nd Battalion and did not take part in the June 2014 Buk convoy. The profile of another co-worker, Pavel S., does not give information about the unit he is in. Also Pavel S.'s profile and his photographs do not show any connection to the 2nd Battalion, any other battalion or Buk unit vehicles in general.

Igor S. uploaded images of himself in uniform in 2012 and 2013, showing the rank of lieutenant. His profile picture on Odnoklassniki shows him and an unidentified soldier or officer sitting on a Buk unit vehicle. That photograph was probably taken by another officer, Ivan B., to whom Igor S. was connected both on VK and Odnoklassniki, because the same photograph was found on the Odnoklassniki profile of Ivan B.



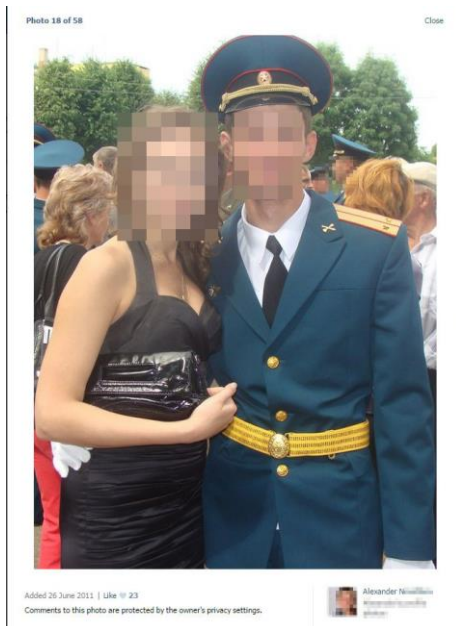
Left: Igor S., a lieutenant, image uploaded 22 June 2012; right: Igor S. (left side) and another unidentified soldier/officer (right side), photograph uploaded by Ivan B., 14 April 2013.

Other photographs from Ivan's album show that the Buk unit vehicle on which Igor S. is sitting might be Buk missile loader 213, a vehicle visible in three images from Ivan's album. Two remarkable photographs on both Ivan's VK and Odnoklassniki profile (uploaded 15 July 2014 but later removed from his VK profile) show Ivan B. in uniform without insignia in a wooded area, an indication that he might have been in the Rostov Oblast as well. He is connected with a few soldiers who were in the Rostov Oblast in the summer of 2014. One photograph of Ivan in an officer's uniform indicates that he became an officer in 2013 or 2014, but his rank is unclear. Igor S. became a lieutenant in 2012 and was likely the commander of Buk missile loader 213 in 2013. It is noteworthy that Buk missile loader 213 was not in the 23-25 June 2014 convoy and was replaced by a different Buk missile loader. Also noteworthy is that Igor S.'s wife did a post on 21 July 2014 on her VK profile saying "He who has the sun shining in his soul will be able to see the sun even in the gloomiest day...", and that Igor S. gave a like to this post, while he rarely responds to her posts with a 'like'.



Left: Buk missile loader 213, from Ivan B.'s Odnoklassniki profile, 23 March 2013; right: Ivan B, 15 July 2014.

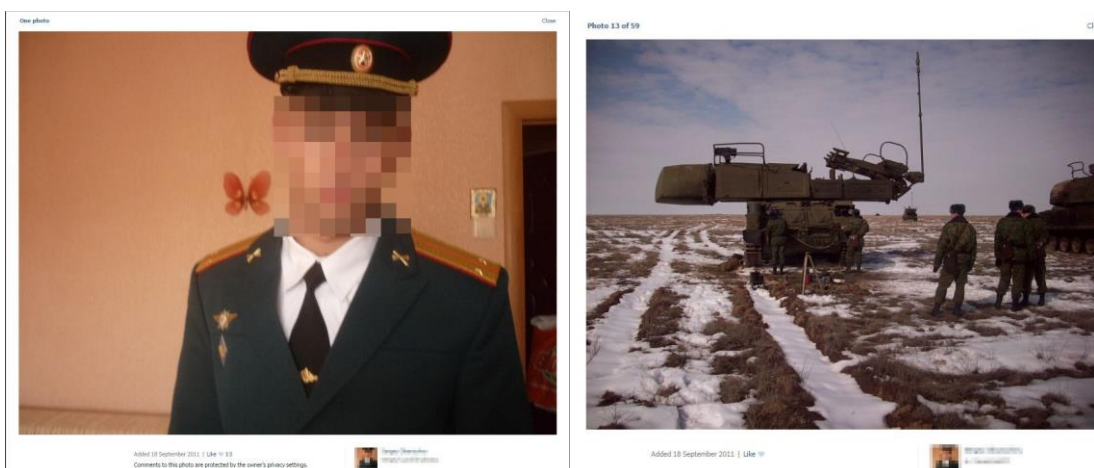
Two other co-workers of Evgeny M., Alexander N. and Grigory M., both describe themselves as being in Unit 32406, and have a military history dating as far back as 2008. Alexander N. became a lieutenant in 2011, evidenced by photographs in which he was tagged and a photograph in his own album; later, he became a senior lieutenant, as shown in a 2014 photograph, although the exact year he was promoted is unknown. In Section Three, Alexander N. was described as an officer who was probably in the 1st Battalion since he is visible on a 2014 photograph sitting inside Buk missile launcher 131. In the photograph, he is next to a cadet who trained at the 53rd Brigade in the summer of 2014, as described in Section Four. Grigory M. does not provide any images on his own profile displaying his military rank, but images in an album on his and his wife's shared profile show that he was a lieutenant in 2010. Grigory's album does not show any military pictures after 2013. As the previous section made clear, he was still serving in 2014, but was not in the 2nd Battalion.



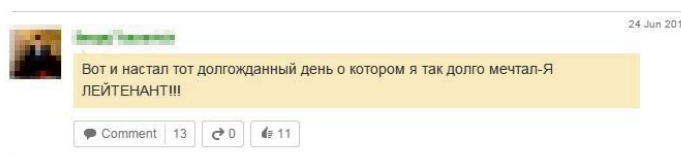
Left: Alexander N., lieutenant, 26 June 2011; right: Grigory M., lieutenant, 13 August 2010.

One noteworthy co-worker of Evgeny M. is Sergey O., who has affiliated himself with the 53rd Anti-Aircraft Missile Brigade in Kursk, Unit 32406, since 2011 and describes himself as a “**Начальник расчета СОУ**” (“СОУ” stands for “**Самходная огневой установка,**” or “Self-propelled missile launcher”), meaning he is a detachment commander of a self-propelled missile launcher, a term often used for a Buk missile launcher.¹⁰³ A photograph uploaded on 18 September 2011 on his VK profile shows that he was a lieutenant, and posts on his Odnoklassniki profile demonstrate that he became a lieutenant in 2011 and a senior lieutenant in 2013.

Another photograph shows a Buk missile launcher from the 3rd Battalion, an indication he was in the 3rd Battalion in 2011. The photograph was uploaded in September 2011, but clearly taken much earlier, since there is snow near Kapustin Yar where the photograph was probably taken. It is possible, though, that this photograph is much older, when he was not yet in the 53rd Brigade. Before 2011, Sergey O. was a detachment commander in the 49th Anti-Aircraft Missile Brigade in Yelnya, near Smolensk.



Left: Sergey O., 18 September 2011; right: A 3rd Battalion Buk missile launcher (right side), 18 September 2011.



A post on Sergey’s wall on his Odnoklassniki profile where he wrote on 24 June 2011 he became a lieutenant.

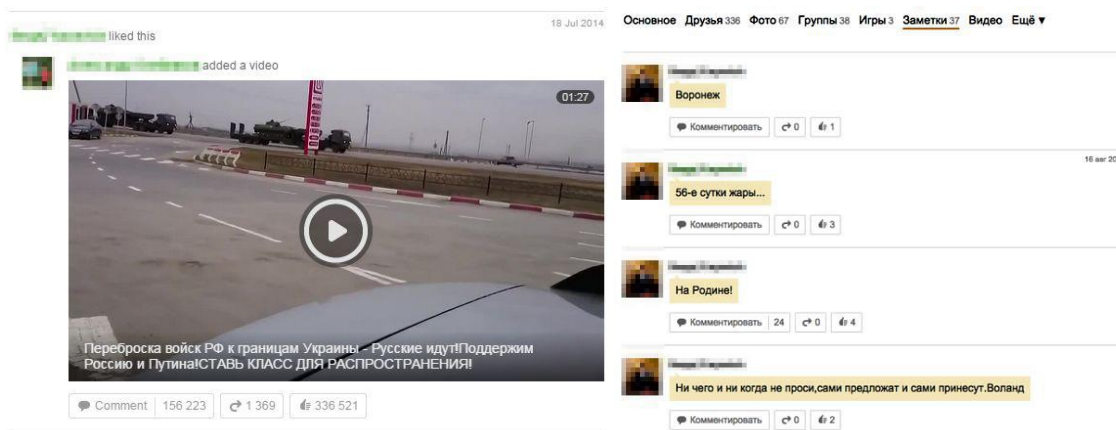


A post on Sergey’s wall on his Odnoklassniki profile where he wrote on 22 July 2013 he became a senior lieutenant.

¹⁰³ http://pvo.guns.ru/buk/buk_13.htm
see also: <http://ru.wikipedia.org/wiki/9A310>

What is notable about his Odnoklassniki profile is that he is very clearly siding with the pro-Russian separatists in the eastern Ukraine conflict. On his wall are several likes of posts about 'Novorossiya' and 'Anti-Maidan',¹⁰⁴ and about transport of military equipment to the Russia-Ukraine border (a 'like' posted on 18 July 2014, the day after MH17 was shot down). Two Odnoklassniki groups that he is a member of are a group dedicated to the Luhansk Peoples' Republic and a group that supports 'Anti-Maidan'.

One post from 16 August 2014 where he wrote "56th day of heat" suggests that there was a heat wave in the surrounding area. Though it was quite hot near Luhansk and near the border on these days,¹⁰⁵ it is more likely that he wrote this message because the 2nd Battalion was deployed 56 days at that moment, or he referred to the number of days that military tension was going on in the area. 56 days before 16 August 2014 was 22 June 2014, just one day before the June 2014 Buk convoy departed to the Rostov Oblast days. Sergey O., as seen later in this section, was in the 2nd Battalion in 2014.

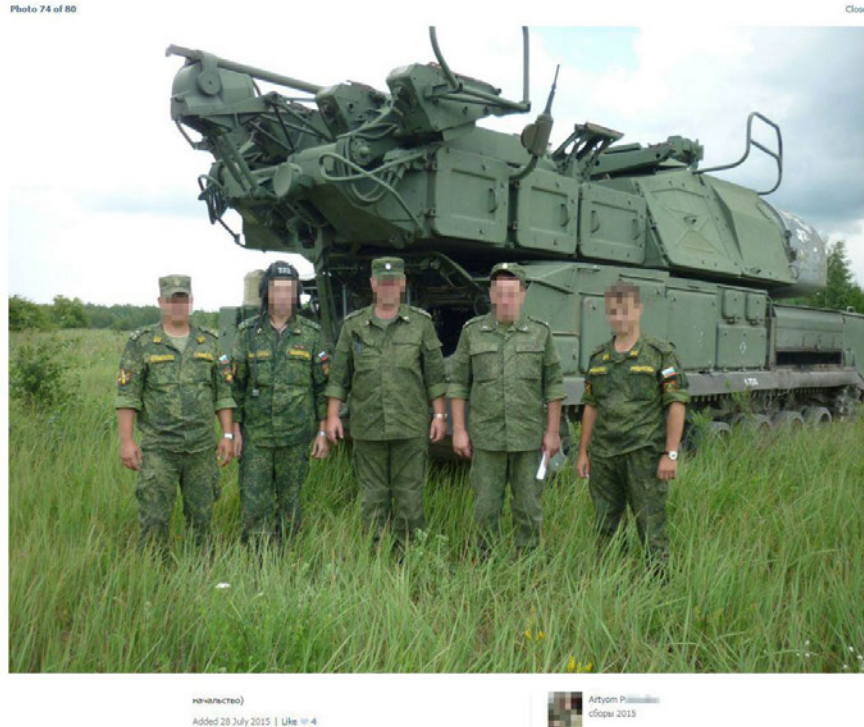


Left: a like of a video of a military transport to the Russia-Ukraine border, 18 July 2014; right: posts of 2014 that Sergey removed from his Odnoklassniki profile; one post mentions the 56th day of heat on 16 August 2014.

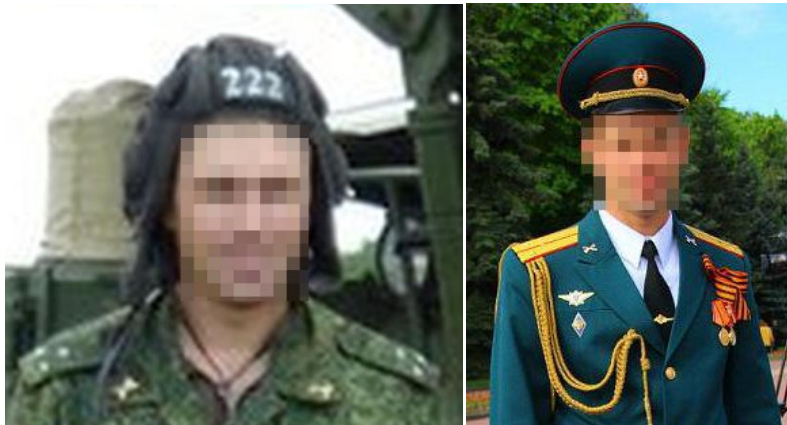
A 28 July 2015 photograph showing five officers in front of an unnumbered Buk missile launcher provides additional information. The officer wearing a helmet with the number 222 (likely indicating that he was responsible for the Buk missile launcher numbered as such) is Sergey O., as evidenced in photographs he uploaded on a new VK profile in October 2015.

¹⁰⁴ Anti-Maidan protests arose in response to the proposed action of a European Union association agreement and the subsequent Euromaidan protests, starting in November 2013. The Anti-Maidan movement supported the Yanukovich government and Russia, while being opposed to the Euromaidan movement, the European Union, and the eventual Poroshenko government.

¹⁰⁵ <http://archive.is/WVabB>



A photograph of five commanders standing in front of an unnumbered Buk missile launcher, including one commander wearing a 222 helmet, 28 July 2015.

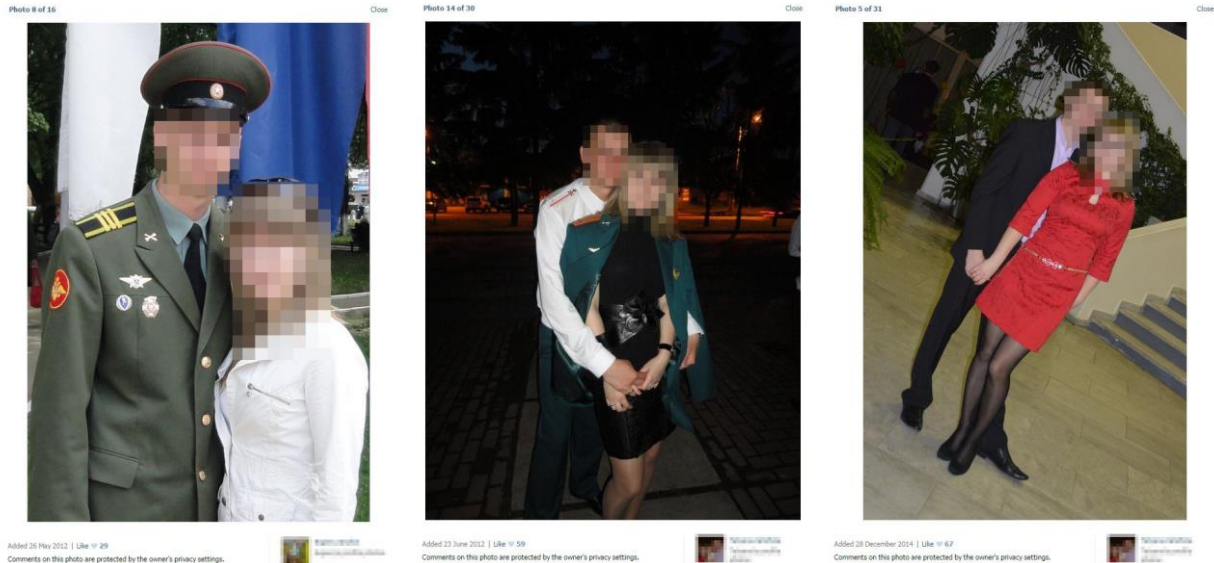


Left: Sergey O., 28 July 2015; right: Sergey O., 5 October 2015.

It is important to know who the commander was of Buk missile launcher 222 in 2014 because this missile launcher was replaced by Buk missile launcher 3x2 in the 23-25 June 2014 Buk convoy. It is likely, but not certain, that the commander who would normally be responsible for Buk 222 was the commander of its replacement, Buk 3x2, in the summer of 2014. However, this theory is not supported by evidence; rather, it must be taken as a plausible hypothesis. Also, it must be noted that a contract soldier (see Section Three about the 2nd Battalion of 2014) posted an image of Buk 222 on Twitter in March 2013, possibly indicating that he was the operator of Buk 222 in 2013, but there is no clear evidence supporting this theory either.

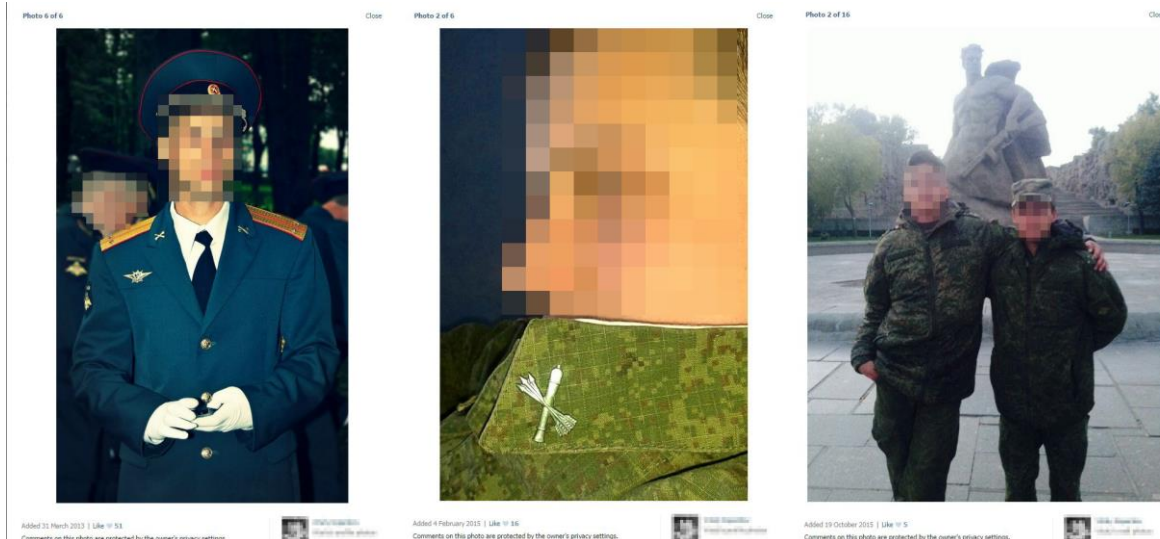
The profiles of Vitaly K. and Evgeny G. do not give any information about the battalion they are in, and only Vitaly's profile shows he is a member of Unit 32406 (53rd Anti-Aircraft Missile Brigade). Photographs uploaded in the albums of Vitaly and Evgeney G.'s wife make clear that both men were lieutenants in the 53rd Anti-Aircraft Missile Brigade as early as 2012/2013. As demonstrated later in this section, both men were officers in the 2nd Battalion in 2013.

One photograph of Evgeny Grishin and his wife, uploaded 28 December 2014, was taken inside a building of the 53rd Anti-Aircraft Missile Brigade, a location commonly seen in official military photographs. This indicates that Evgeny Grishin was still an officer with the 53rd Brigade in 2014, but it is not certain he was still in the 2nd Battalion in 2014.

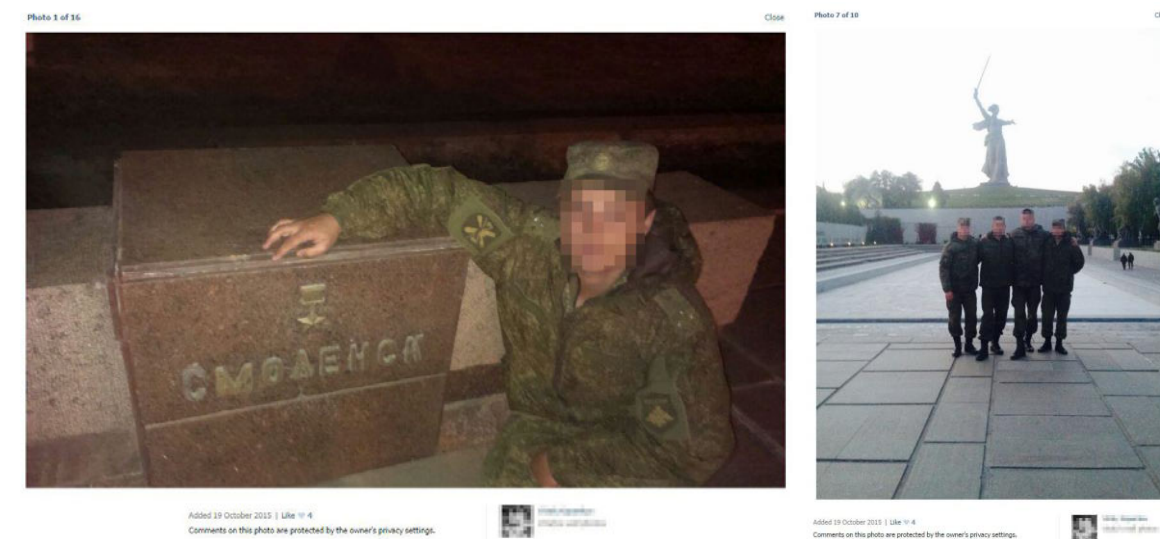


Left: Evgeny G., sergeant, 26 May 2012; middle: Evgeny G., lieutenant, 23 June 2012;
Right: Evgeny G. inside a building of the 53rd Anti-Aircraft Missile Brigade, 28 December 2014.

Among other photographs from the same time, an October 2015 photograph of Vitaly K. shows he became a senior lieutenant after March 2013, and shows how Vitaly K. made a 2015 trip to Volgograd with other officers of the 53rd Brigade. The identity of one of these officers is still unclear, but two other officers were Sergey O. (see earlier this section) and Vladimir P. (described later this section). Both of these officers were in the 2nd Battalion of the 53rd Brigade in 2013/2014, as shown later in this section. The next subsection shows how additional officers made the Volgograd trip in October 2015, during training in nearby Kapustin Yar.

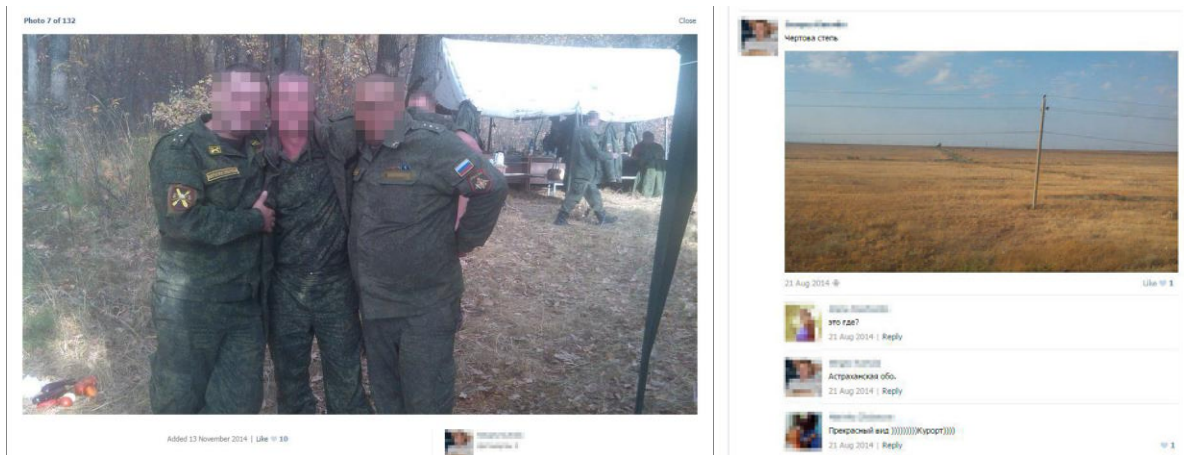


Left: Vitaly K., lieutenant, 31 March 2013; middle: Vitaly K. with emblem of the Air Defense, 4 February 2015; Right: unidentified officer (left) and Vitaly K. (right) in Volgograd, 19 October 2015.



Left: Vitaly K., senior lieutenant, 19 October 2015; Right: Vladimir P, Sergey O., an unidentified officer and Vitaly K. in Volgograd, 19 October 2015.

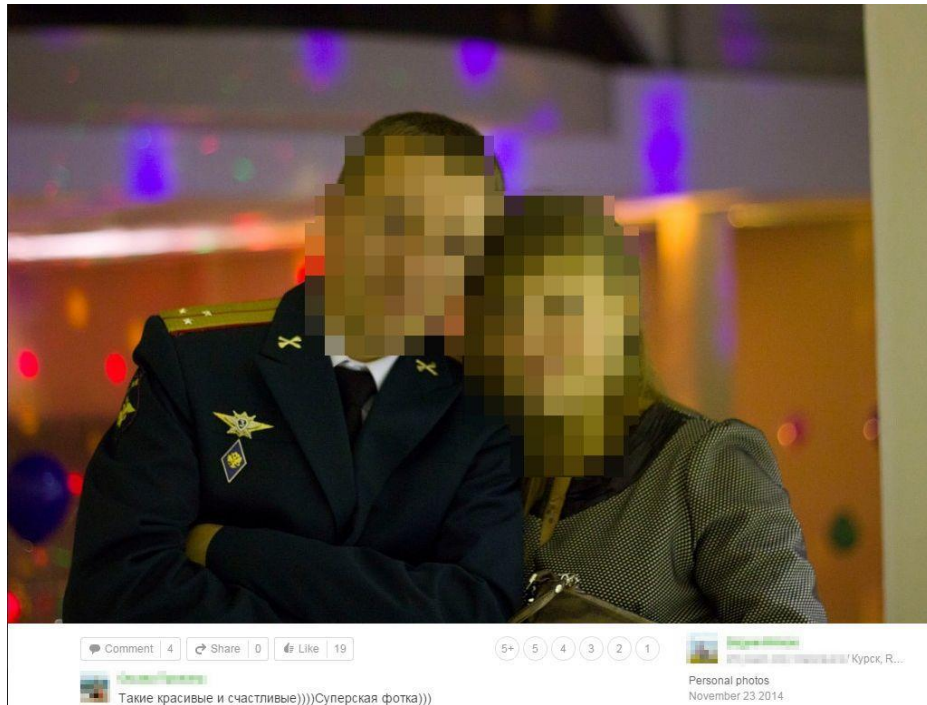
The profile of another officer was found, Sergey K., via profiles of some of the aforementioned commanders. Sergey K., an officer who was in the 53rd Brigade but very likely not in the 2nd Battalion, became a lieutenant in 2010 and later a senior lieutenant (exact time unknown). Two images in his VK photo album – both uploaded in November 2014 – show him barbecuing in a wooded area with other officers. Another photograph, uploaded 21 August 2014, shows a field and the comments under this photograph explain that it was taken in the Astrakhan Oblast, the region where the Kapustin Yar exercises are held. Section Three shows that the 1st Battalion left the Rostov Oblast and went to Kapustin Yar on 10 August 2014; therefore, it is likely Sergey K. was in the 1st Battalion in the summer of 2014.



Left: Sergey K., senior lieutenant (on the left side) with two other identified officers (Ivan I. and Igor D.), barbecuing in a wooded area, 13 November 2014;
 Right: Sergey K. comments on a photograph that it was taken in the Astrakhan Oblast, 21 August 2014.

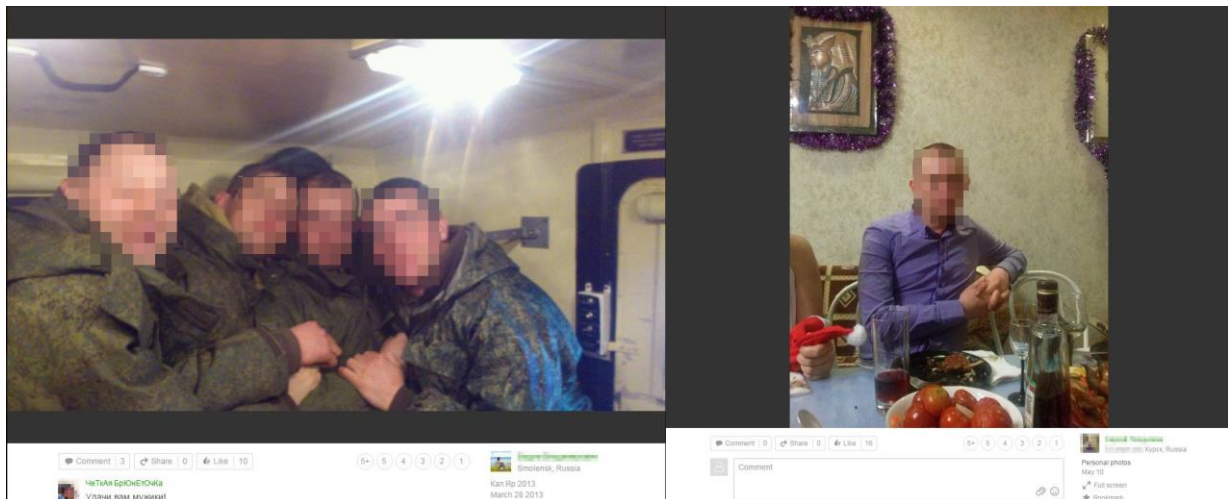
Evgeny M.'s two remaining co-workers provided valuable information in the photo albums on their VK and Odnoklassniki profiles. The first, Rafael A., has been a captain since 2014. This means he was not a Buk unit officer, but rather a battery officer; he is further profiled in the next subsection about battery officers.

Evgeny's last co-worker to be described is Vadim M. From photographs in albums both on his VK and Odnoklassniki profiles, it becomes clear he has been in the army since at least 2008 and joined the 2nd Battalion of the 53rd Anti-Aircraft Missile Brigade in 2010. His photo album on Odnoklassniki shows many 2nd Battalion Buk unit vehicles, including Buk command vehicle 200, Buk Snow Drift radar 201, and Buk missile launchers 211 and 221. In four photographs of missile launchers, a group of soldiers and/or officers standing in front of the missile launchers is visible, and on three the soldiers are tagged, revealing their names.



Vadim Myagkov, senior lieutenant, 23 November 2014.

Another image from Vadim M.'s album shows some of his co-workers more clearly. In this photograph, Konstantin M. and Sergey O. are clearly recognizable. A third officer, identified as Sergey P., who is a connection of some of the aforementioned commanders, is also visible in the photograph. He has been an officer since at least 2009, and later in this section evidence will establish that he was also part of the 2nd Battalion in 2014.



Left: Konstantin M, Sergey O., Sergey P. and Vladimir P., 28 March 2013;
 Right: photograph of Sergey P. from his own profile, 10 May 2015.

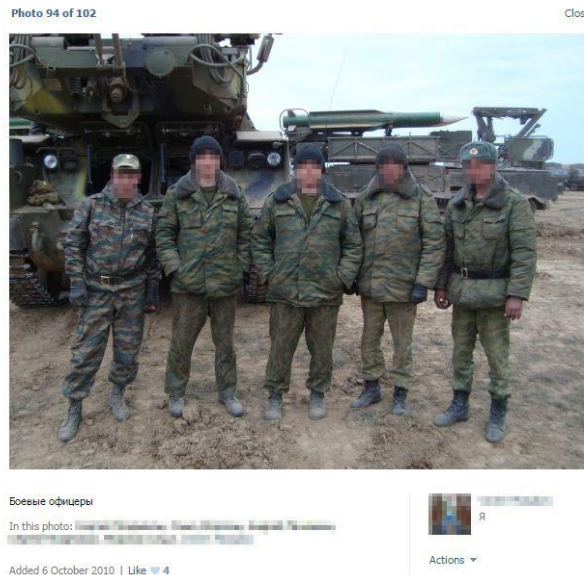
The fourth officer is named Vladimir P., also a connection of aforementioned officers, who was clearly recognizable in a family photograph and on a photograph of another Odnoklassniki profile.



Vladimir P., from his other Odnoklassniki profile.

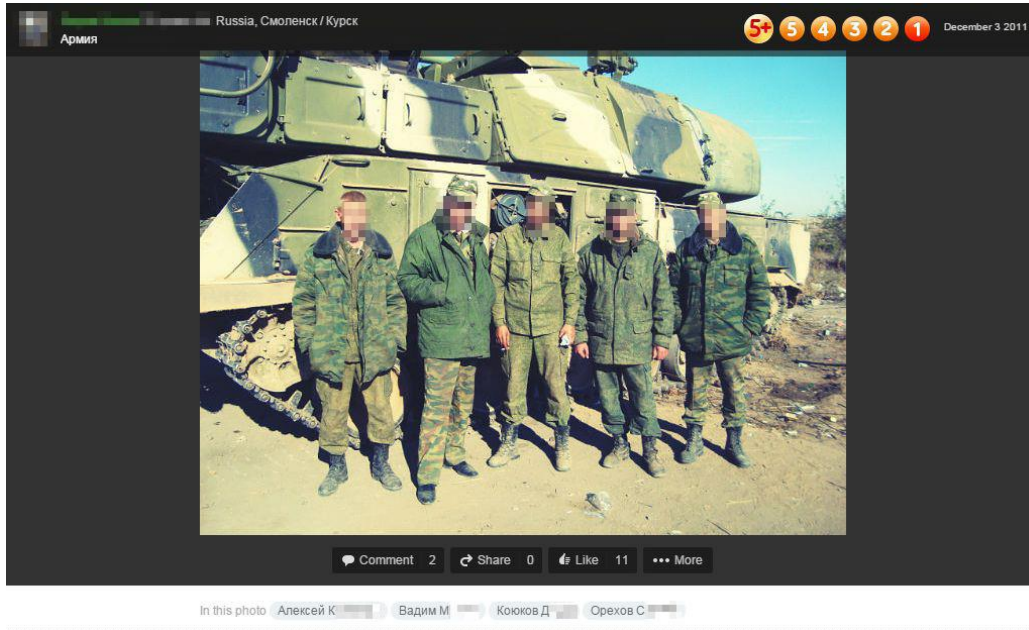
Further circumstantial evidence that shows that Vladimir P. was in the June 23-25 convoy is from posts from his wife. On 23 June 2014, she posted on her OK profile that she felt lonely, and on 17 July 2014, she posted a poem commonly shared by officers' wives, about the difficulty of the husband/officer being away from his family.

The first tagged image in Vadim M.'s album is dated 6 October 2010, which shows Vadim M. and four other officers, three of whom are tagged as Sergey P., Sasha M. and Andrey P. The officer named Sergey P. is the same officer in the previous image of four officers.



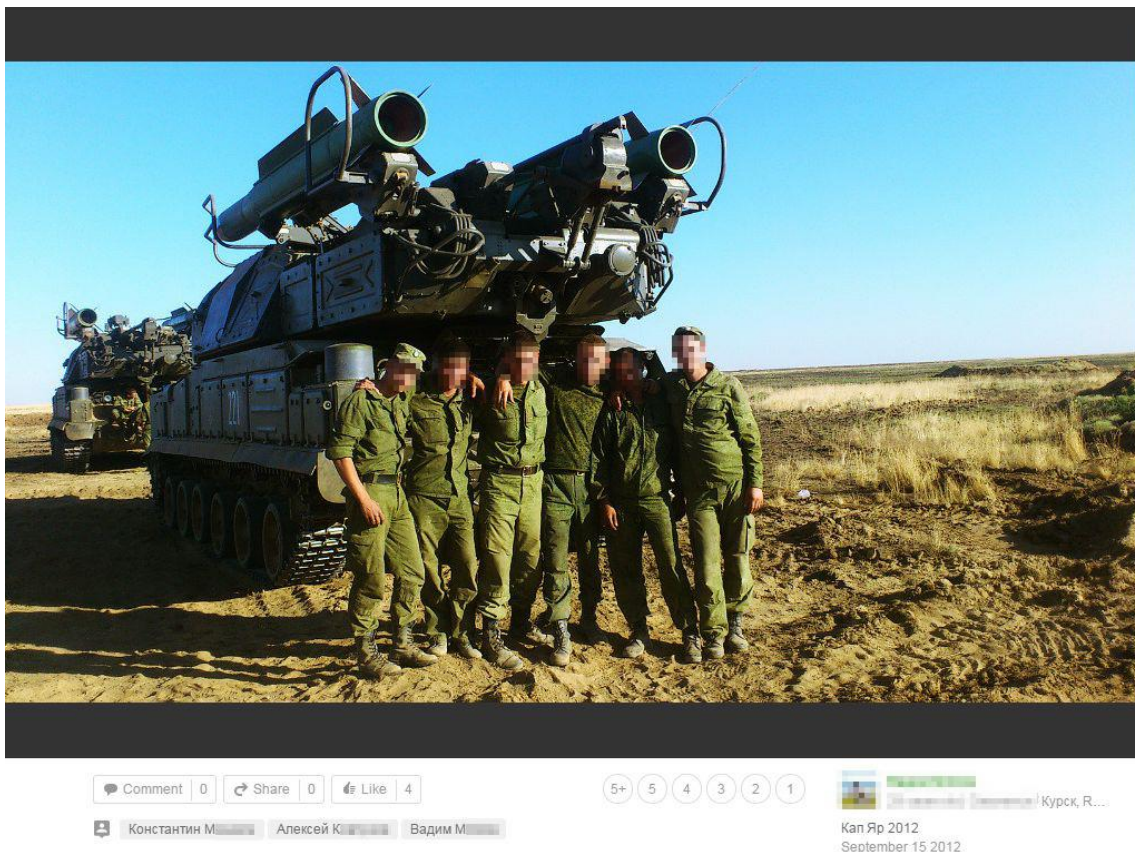
"Military officers," with the following officers tagged: Vadim M. (second from left), Sasha M. (middle), Andrey P. (second from right), and Sergey P. (right).

The second tagged image is from 3 December 2011, in which Vadim M. and other soldiers or officers are visible, including Aleksey K., Dmitry K., and Sergey O. (a different one than the one described earlier in this section). The tags of the last two names did not link to their profiles, but the link to Aleksey K.'s name reveals the profile of someone who was a major in 2008 (Aleksey K. is described in the next subsection). The other two profiles were found via connections to commanders.



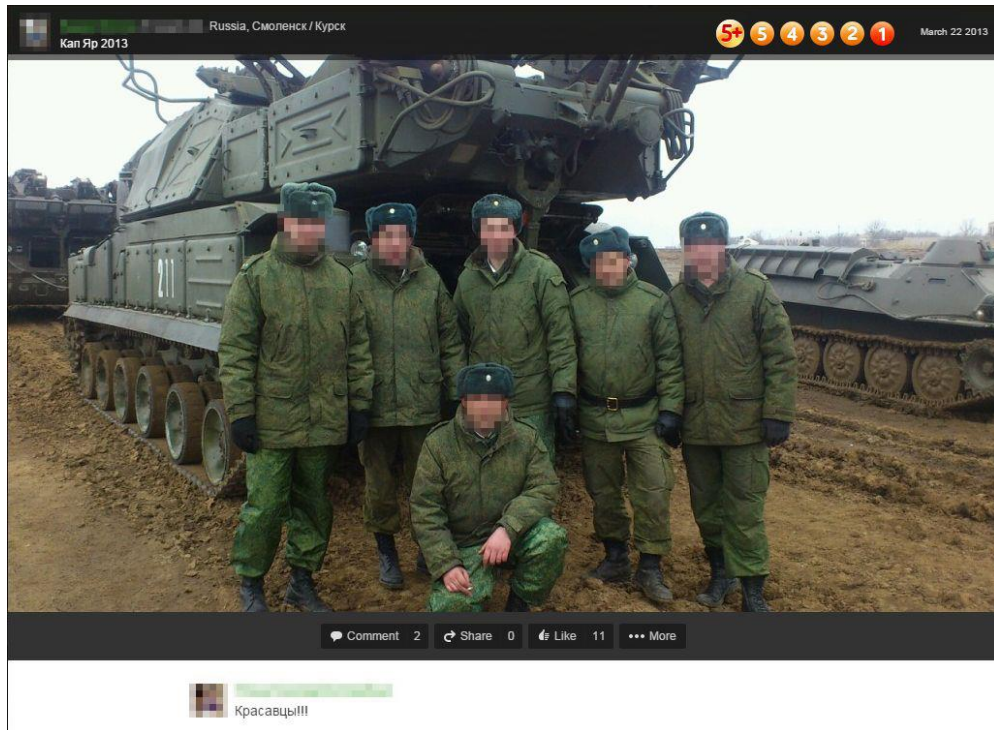
Vadim M. (second from left) in front of a Buk missile launcher, together with other officers, tagged Aleksey K. (middle), Dmitry K. (second from right), and Sergey O. (right), 3 December 2011.

The third tagged image is from 15 September 2012, in which three officers are standing in front of Buk missile launcher 221. The three tagged officers are Vadim M., Konstantin M. (see the beginning of this subsection), and Aleksey K. (the major also tagged in the previous 2011 image). Three additional officers are in this photograph: Evgeny M., Vladimir P. and Sergey O., who were apparently in the 2nd Battalion in September 2012. It is likely that of the five lieutenants (the sixth individual is a captain) standing in front of Buk missile launcher 221, one of them was the commander of that missile launcher.



Buk missile launcher 221 and six officers: Evgeny M. (left), Vladimir P. (2nd from left), Sergey O. (3rd from left), Vadim M. (3rd from right), Aleksey K. (2nd from right), and Konstantin M. (right).

A fourth image from 22 March 2013 shows Buk missile launcher 211 with six officers standing in front of it. None of them are tagged, but four of the officers are identifiable as Evgeny G., Igor S., Vitaly K. and Konstantin M. A fifth officer is likely Dmitry K. Because a woman with the surname K. commented “Handsome!” under the image, an officer with surname K. might be visible in this image as well, and might be the same officer as Dmitry K. in the previous image. The woman’s profile shows a major who looks similar to the man sitting on his knees in the photograph below. Major Dmitry K. will be described in the next subsection.



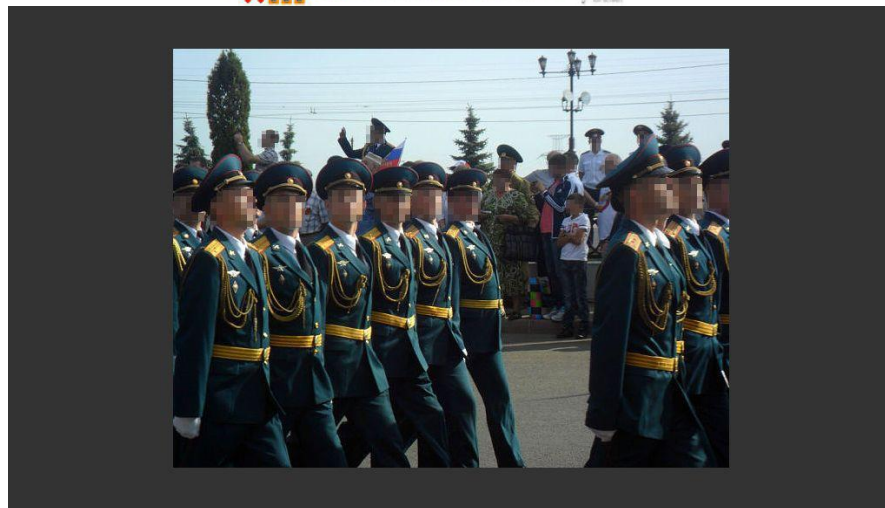
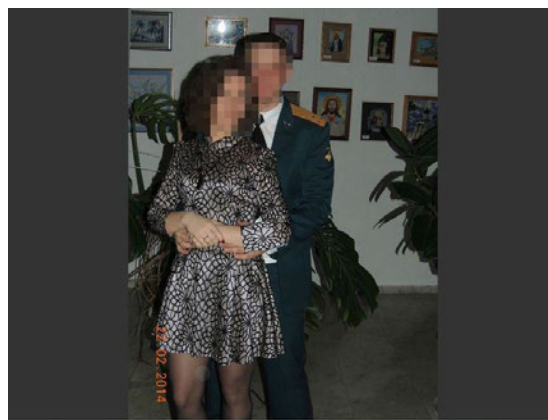
Buk missile launcher 211 and six officers: Evgeny G. (left), unidentified officer (second from left), Igor S. (middle), Vitaly K. (second from right), Konstantin M. (right), and major Dmitry K. (crouching).

Two now-deleted photographs show Vadim M. with a 201 helmet in front of and on a Buk unit vehicle, which on a 2014 VK photograph is very likely a Buk Snow Drift radar. This is a strong indication Vadim M. was a detachment commander of Buk Snow Drift radar 201 in 2014.



Left: Vadim M. with a 201 helmet on top of a vehicle similar to a Buk Snow Drift radar, uploaded 26 February 2014 (image deleted as of 6 January 2016);
 Right: Vadim M. with a 201 helmet in front of a Buk unit vehicle, uploaded on Instagram, but since deleted.

Pavel K., a likely Buk unit commander of the 2nd Battalion in 2014, was discovered through common connections of other 2nd Battalion commanders. His own social media profiles are restricted and/or not updated since 2011, but photographs in his wife's photo album show he was a senior lieutenant in air defense at 22 February 2014 and in air defense since at least 2013. This is best seen in a photograph of Pavel K. walking in between other air defense officers at the 70th Anniversary Parade for the Victory in the Battle of Kursk.¹⁰⁶ 29 December 2014 and 30 December 2013 photographs show him and his wife inside a building of the 53rd Brigade. Another 2013 photograph shows him together with Vladimir P. and Evgeny G., and a 2016 photograph shows him together with Vladimir P. A 9 May 2015 photograph, taken on Victory Day in Kursk, shows his wife and a child in front of a Buk missile launcher, and a post on his wife's profile of 18 July 2014 makes clear that she is an officer's wife and misses her husband, who was at that time likely serving far from home. Considering all of these factors, it is very likely that Pavel K. was a Buk unit commander in the 2nd Battalion in 2014. Additional evidence to this conclusion will be shown later in this section in the form of an October 2015 photograph.



Top: Pavel K, senior lieutenant in air defense, 22 February 2014; bottom: Pavel K. in a military parade in Kursk, 24 August 2013.

¹⁰⁶ <http://www.youtube.com/watch?v=IFt1kmsQHmg>

Commanders of the 1st and 3rd Battalions in 2014

In addition to the 2nd Battalion, commanders from the 1st Battalion in 2014 have also been identified. While the previous subsection on 2nd Battalion officers presented several individuals who may have knowledge or direct connections regarding the MH17 tragedy, this subsection will present individuals who likely have no connection to the tragedy, due to their lack of involvement in the 23-25 June 2014 Buk convoy. A 31 January 2014 post in an Odnoklassniki group mentions three names of officers in the 1st Battalion, 3rd Battery: Alexander C., Sergey K., and Nikolay M. In the same discussion, another officer, named Andrey Z., is mentioned; he is apparently in the 1st Battalion, 2nd Battery. A photograph Sergey K. uploaded on VK makes clear that he was the commander of Buk missile launcher 131 in 2012. According to an official source, Nikolay M. was a battery officer in February 2014 and held the rank of captain.



Left: Sergey K., commander of Buk 131, 8 July 2012; right: Alexander C., 20 March 2012.

This report's introduction mentioned the name of a 3rd Battalion officer published by the Ukrainian news site Censor.net. This officer is named Roman Ivanovich Gorlatykh; he was the commander of the 3rd Battalion, according to Censor.net.¹⁰⁷ A few posts on VK communities mention the same name, one makes it clear that he was the officer of the 3rd Battery in the 3rd Battalion in 2013.

A post on a VK community reveals names of officers that who used to be in the 3rd Battalion, including Alexander N. (see previous sections and subsection) and Evgeny S., a captain who has been with the 53rd Brigade since 2004. Because the 3rd Battalion was partially disbanded some time before 2014, it is not completely clear whether Alexander N. and Evgeny S. moved to another battalion or stayed at the 3rd to train cadets and conscript soldiers, although Alexander N. was photographed with a cadet in 2014.

¹⁰⁷ http://censor.net.ua/forum/755432/buk_pod_nomerom_322

Battery Commanders of the 2nd Battalion in 2014

The subsection about the Buk unit commanders of the 2nd Battalion describes two officers with higher ranks who were very likely in the 2nd Battalion of the 53rd Anti-Aircraft Missile Brigade: Captain Rafael A. and Major Aleksey K. Looking back to the previous subsections, Rafael A. was one of the listed co-workers of Evgeny M. and Aleksey K. was visible in two of Vadim M.'s photographs.

Aleksey K. has been a major since at least 2008 according to photographs on his Odnoklassniki profile and, according to his profile, was still serving in the 53rd Brigade in 2014. He is visible in two of Vadim M.'s photographs from 2011 and 2012 (see previous subsection) in the company of 2nd Battalion lieutenants of the 53rd Brigade. In one of these photographs, Aleksey K. poses with lieutenants in front of Buk missile launcher 221, likely indicating that he was a commander of the 2nd Battery in the 2nd Battalion in 2012. Earlier in this section, we mentioned that a battery officer has the rank of captain or major. This does not necessarily mean that every captain or major is a battery officer, but since Aleksey K. is visible in photographs together with Buk unit officers (lieutenants), it is very likely that he was a battery commander in the 2nd Battalion of the 53rd Brigade in 2011 and 2012.

A 2014 VK community post about the 2nd Battalion of the 53rd Brigade also mentions the name of Major Aleksey K., and another post, dated 11 December 2014, shows that Aleksey K. was still an officer in the 2nd Battalion in 2014.

On his profile, he commented “что творят нелюди” (“see what these inhumans do”) on a since-deleted video of an Antimaidan group (the same group Sergey O. was a member of).

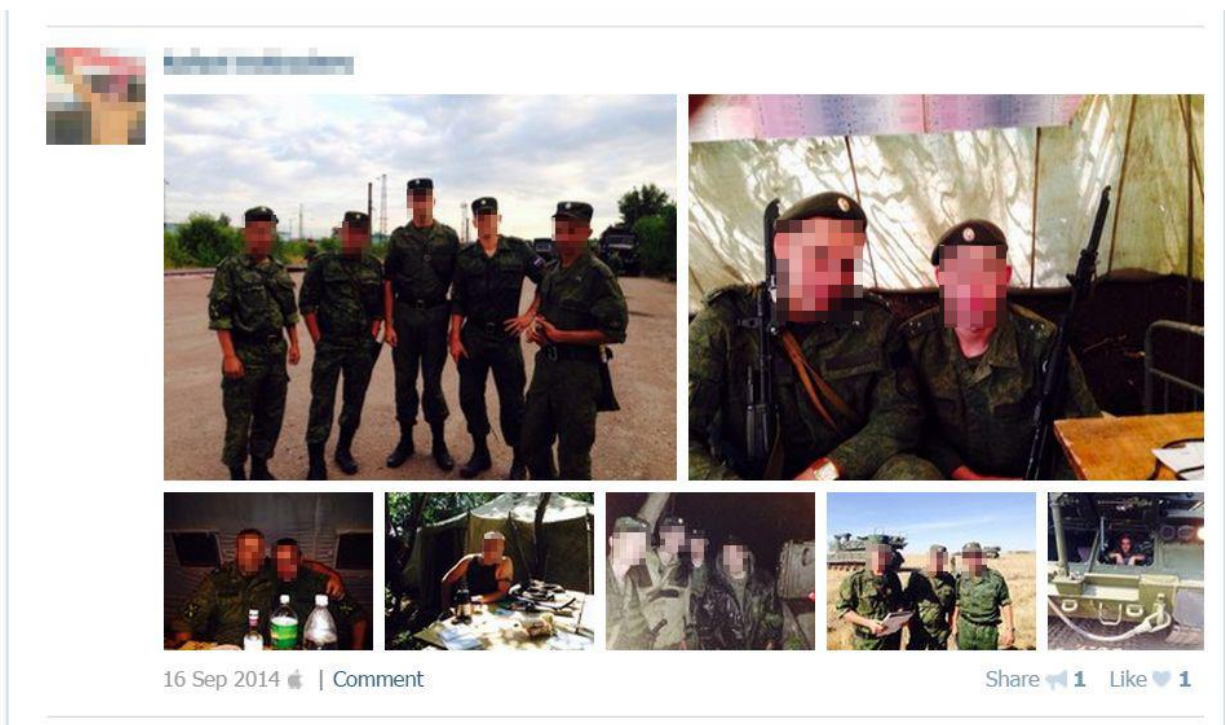


Alexey K., major, photograph uploaded in 2008 (a military parade in Moscow).

A captain named Rafael A. provided more information on his VK and Odnoklassniki profiles. Both profiles were removed shortly before 24 June 2015, but apparently the VK profile was just temporarily disabled because it was back online in July 2015; the Odnoklassniki profile was not reactivated. These profiles were removed shortly after *Bild*'s publication about an upcoming Bellingcat report.¹⁰⁸ Unfortunately, only one image has been saved from Rafael A.'s now-deleted Odnoklassniki profile, but that particular image yields important information.

¹⁰⁸ <http://www.bild.de/bild-plus/politik/ausland/flug-mh-17/bericht-enthuehlt-die-taeter-des-flugzeug-abschusses-41362040.var=xview=conversionToLogin.bild.html>

First, the wall posts and images from Rafael A.'s VK profile will be examined. Two notable wall posts were made by Rafael A. on 16 September 2014 and 2 October 2014, where, in both cases, collections of pictures are posted at once. The collection of pictures posted on 16 September shows photographs that were obviously not taken in the same location or on the same date. Four photographs are geotagged, with two of them in or near Kursk, one pointing to the exercise fields near Kapustin Yar in the "Akhtubinskiy rayon," and, strangely enough, one in Wisconsin in the United States, which clearly is either a mistake or was deliberately changed. Clicking on the location shows a part of the Atlantic Ocean near Africa, a location that corresponds with Google coordinates 0°00'00.0"N 0°00'00.0"E. At the very least, it is clear that these photographs were not taken on the same day nor at the same location. The uploaded images are ordered left to right, starting with officers standing near the train station in Kursk and ending with Rafael A. inside a Buk unit vehicle wearing a helmet that is difficult to read showing either a number 524 or 324 on the helmet.

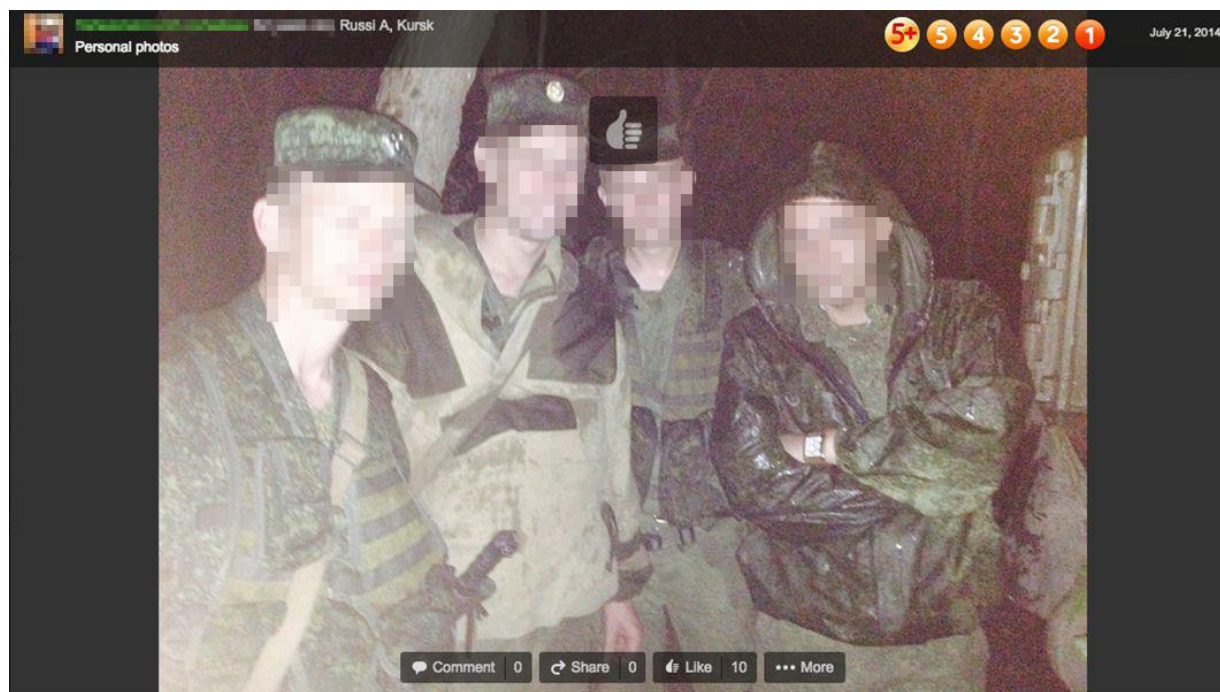


Rafael A.'s wall post on his VK profile from 16 September 2014 with a series of images.

In the first image, Rafael A. is the second man from the left; besides the officer standing on the right side, named Marat Y. (see Section Four), no other officers have been identified. The second image shows Rafael A. with lieutenant Sergey O. (see previous subsection), who was very likely in the 2nd Battalion in 2014. The same image was found in a 53rd Brigade Odnoklassniki group, uploaded on 21 July 2014. The third image shows Rafael A. with a major named I. L. (described further in this section) in the Akhtubinskiy rayon. The fourth image shows Rafael A. in a wooded area; this photograph is unlikely to have been taken in the area of the exercise fields near Kapustin Yar.

The fifth image, which was geotagged in Wisconsin, is a quite remarkable image because it shows the three officers in previous photographs of the 2nd Battalion: Evgeny M. (left), Sergey O. (middle left), Sergey P. (middle right), and Rafael A. (right).

The one image that was saved from Rafael A.'s Odnoklassniki profile is this photograph depicting these four officers, uploaded on 21 July 2014. The photograph could not have been taken in the Kapustin Yar area because the 1st Battalion went there on 10 August 2014, the 2nd Battalion was in the Rostov Oblast in the summer of 2014, and the 3rd Battalion stayed at the base in the summer of 2014. On 21 July 2014, the 1st Battalion arrived in an area southwest of Kamensk-Shakhtinsky, while units of the 2nd Battalion were in an area to the west and southwest of Millerovo. Judging by the likely location of the battalions, the presence of 2nd Battalion officers, the visible uniforms, and the upload date of the photograph, this image indicates that Rafael A. was a captain in the 2nd Battalion in 2014. However, unless Rafael A. moved from one battalion to another in July 2014 or the photographs in Kapustin Yar were taken earlier – for example in May or June 2014 – this does not fully explain the Kapustin Yar photographs.



Evgeny M. (left), Sergey O. (second from left), Sergey P. (second from right), and Rafael A. (right), photograph uploaded 21 July 2014.

The sixth image of the 16 September 2014 collection on Rafael A.'s VK wall post shows Rafael A. and other officers with unnumbered Buks in a big, empty field similar to the Kapustin Yar training fields. The area visible in the image is not similar to the area of the Rostov Oblast where the 2nd Battalion was deployed, which is more of a green, wooded area than the steppe around Kapustin Yar. Since most of the Buks transported to the Rostov Oblast were numbered, this photograph was likely taken near Kapustin Yar. The seventh and last image shows Rafael A. inside a Buk vehicle wearing a 324 or 524 helmet; numbers that do not correspond with any 53rd Brigade Buk vehicle in 2014.

It is unclear if the photographs uploaded by Rafael A. on 16 September 2014 were uploaded in chronological order or if they were all taken in the same month or year. Another series of images was uploaded by Rafael A. on 2 October 2014. These photographs – where we see officers barbecuing and eating – were apparently taken on the same day, very likely sometime between 16 September 2014 and 2 October 2014. After 16 September 2014, all three battalions had returned to the base near Kursk (the 1st Battalion returned 10 or 11 September 2014, the 2nd Battalion just before or on 12 September 2014 after almost three months in the Rostov Oblast, and the 3rd Battalion never left the base of the 53rd Brigade).



Rafael A.'s wall post on his VK profile from 2 October 2014 with a series of images.

The first image shows Rafael A. with an officer named Evgeny S., who used to be in the 3rd Battalion. The second image shows Rafael A. sitting next to a captain named Alexander L; on the other side of Rafael A. is Grigory M. (one of Evgeney M.'s co-workers from the previous subsection). The next images show Sergey K. (a senior lieutenant, see previous subsection); comparing Sergey K.'s barbecue photographs to these makes it clear that it is the same event. Since Sergey K. was very likely in the 1st Battalion, it becomes clear these photographs were taken after 10 September 2014. Major I. L. is visible again in two images, as is an officer named Ivan I, who is also visible on a 2012 photograph of 2nd Battalion officers and soldiers on Vadim M.'s OK profile (see previous subsection).

Besides the two wall posts comprising a series of photographs, Rafael A. posted an interesting photograph on 1 March 2014, depicting himself and three other officers inside a building of the 53rd Brigade. Among these officers is Major I. L. and a senior warrant officer, Igor D. The major on the left has not yet been identified.



Location: imeni Marshala Zhukova, Russian Federation
 Added 1 March 2014 | Like 10



Four officers inside a building of the 53rd Brigade, 1 March 2014: an unidentified major (left), major I. L., captain Rafael A., and senior warrant officer Igor D.

In October 2015, Rafael A. posted new images on his VK profile of himself and other 53rd Brigade officers, just as Vitaly K. did (see previous subsection). These images clarify that a part of the 53rd Brigade returned to Kapustin Yar in the summer/autumn of 2015. Some of the officers in the photographs are Sergey O., Vladimir P., Konstantin M., Pavel K. and Alexander C. Most of these officers were in the 2nd Battalion in 2014, with the exception of Alexander C., who was in the 1st Battalion in January 2014, but he apparently moved to the 2nd Battalion in 2014 or 2015.

Photo 1 of 4

Close



Location: Akhtubinskiy rayon, Russian Federation
Added 15 October 2015 | Like 5



Photo 4 of 4

Close



Location: Akhtubinskiy rayon, Russian Federation
Added 15 October 2015 | Like 7



Left: Vladimir P. (left) and Rafael A. (right) in the Akhtubinskiy rayon, 15 October 2015;
 Right: Alexander C. (left), Konstantin M. (2nd from left), Rafael A. (3rd from left), Pavel K. (middle up),
 an unidentified officer (3rd from right), Sergey O. (2nd from right), and an unidentified officer (right).

Photo 1 of 2

Close



Location: Akhtubinskiy rayon, Russian Federation
Added 23 October 2015 | Like 3



Photo 2 of 2

Close

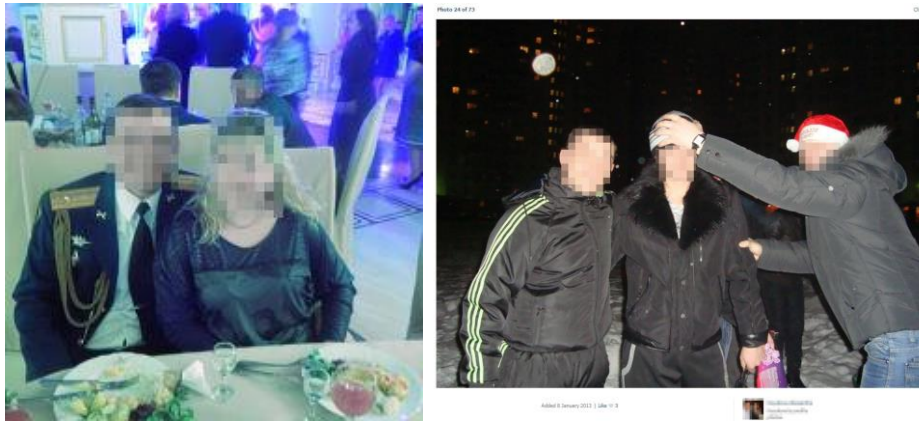


Location: Soyuznaya ulitsa, Kursk, Russian Federation
Added 23 October 2015 | Like 8

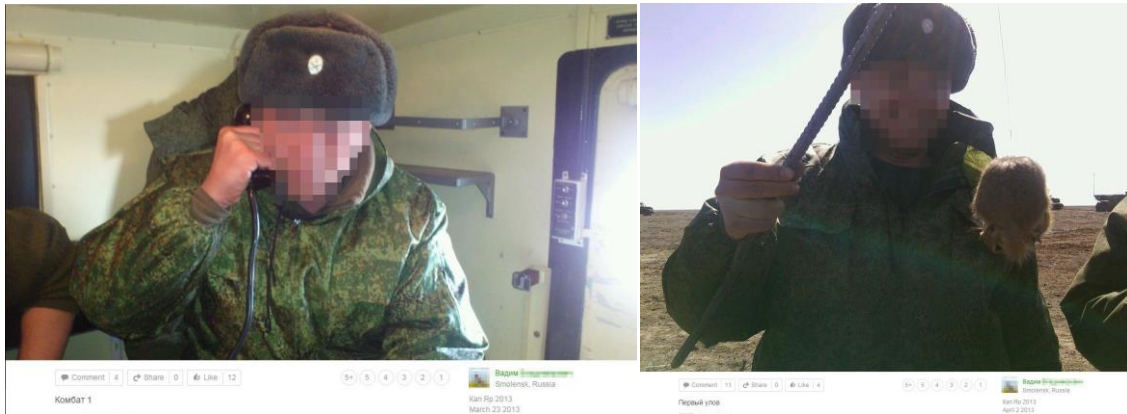


Left: Rafael A. (left), Sergey O. (middle), Vladimir P. (right), 23 October 2015.
 Right: an unidentified officer (left), Rafael A. (2nd from left), Vladimir P. (2nd from right),
 and Sergey O. (right), train station Kursk, 23 October 2015.

The previous subsection described a major named Dmitry K., who is visible in several images uploaded by Vadim M (see previous subsection). A 2013 photograph shows Buk 211 and six officers, including Dmitry K. The profile of his wife, Elena K., the woman who gave a comment to the Buk 211 photograph, shows a photograph of major Dmitry K. Two other photographs from a social media connection of Dmitry K. show two 2nd Battalion Buk unit commanders, Konstantin M. and Sergey P., with Dmitry K. While Dmitry K. was an officer of the 2nd Battalion in 2013, there is no direct evidence indicating that he was still an officer in this battalion in 2014.



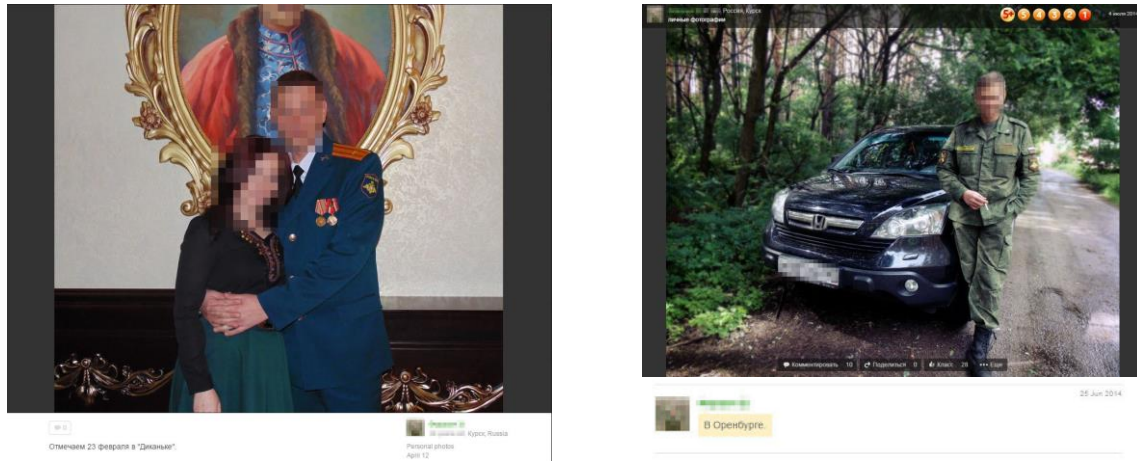
Left: major Dmitry K. and his wife; right: Dmitry K., Sergey P., and Konstantin M., 8 January 2013.



Left: major Dmitry K. on Vadim M.'s profile 23 March 2013 (the photograph was not archived);
 Right: major Dmitry K., on Vadim M's profile, 2 April 2013.

Other Commanders in the 53rd Anti-Aircraft Missile Brigade in 2014

One commander connected to several 2nd Battalion officers is Denis S., a major of the 53rd Brigade who calls himself 'Fedor' on social media. A closer examination of his profile reveals that he was not in the 2nd Battalion in 2014. A photograph posted 4 July 2014 shows him in front of what is described in a comment as his new car with a Kursk oblast region code on its license plate (46), but the photograph could have been taken earlier. More concrete indications as to his whereabouts in June-July 2014 are found in other posts, including a wall post on 25 June 2014 in which he writes he is in Orenburg at the moment and a photo album, uploaded 10 July 2014, showing photographs from Orenburg as well.



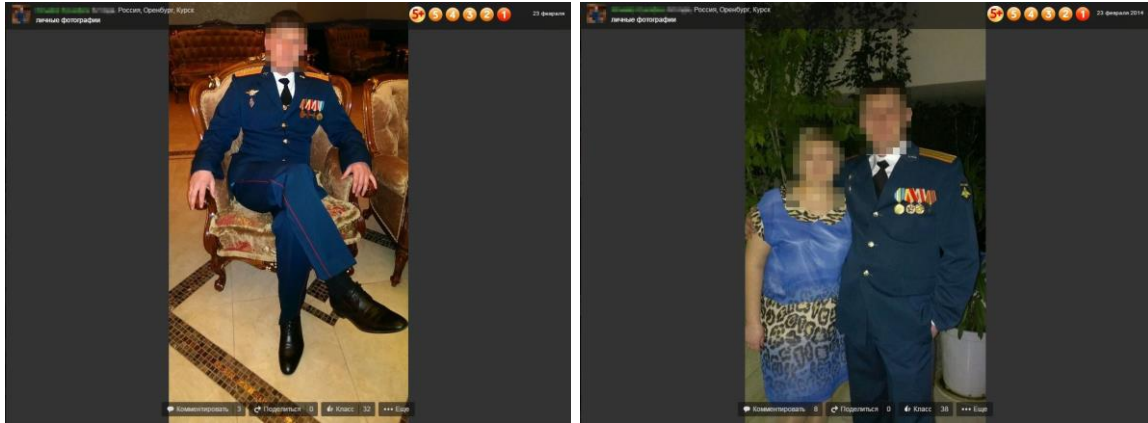
Left: Major Denis S. of the 53rd Brigade (with his wife); right: Denis S. in front of his car, 4 July 2014, and Denis S.'s location on or around 25 June 2014, where he writes "в Оренбурге" (in Orenburg).

A photograph uploaded to a 53rd Brigade album of an Air Defense Odnoklassniki group shows Denis S. in front of a 2014 week schedule or 'plan', where on the top of the columns the days of the week are displayed, while the rows display the three battalions, divided into three batteries, but also a command unit and some other units. Numbers are displayed in the second column, and a number 3 is apparently displayed for each battery for the amount of officers and the number 12 of total personal, which means one (commissioned) officer for each Buk unit vehicle and four crew members for each vehicle. This information corresponds with the number of crew members mentioned in Section One.



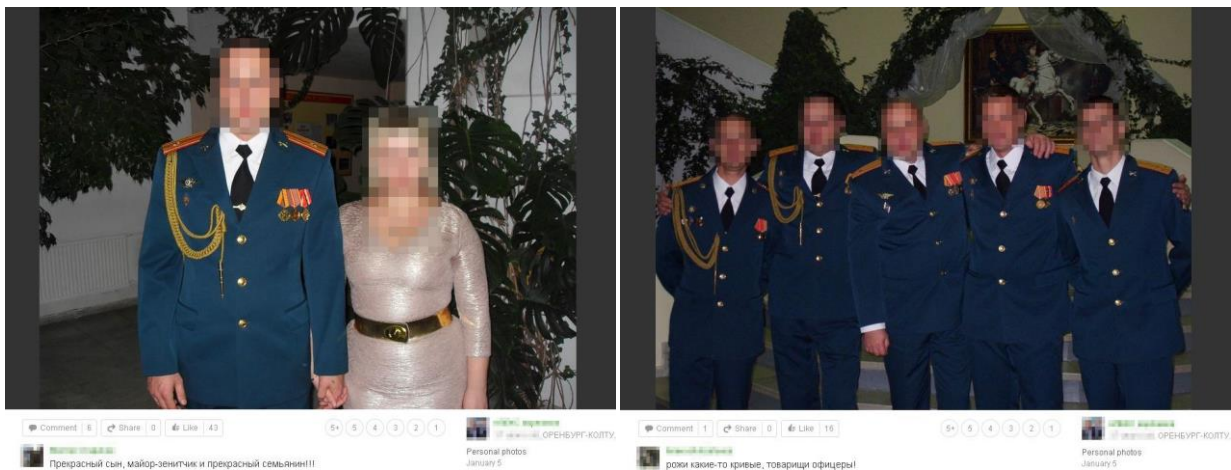
Denis S. in front of a week schedule or 'plan,' image uploaded 20 September 2014.

Ilmir K. is a commander who started in Orenburg and was already an officer in 2009; he later became a captain and, in 2013, a major. His name is mentioned as a captain of command vehicle on an information page about Unit 32406 (the 53rd Brigade); the page also describes that Ilmir K. has been with the 53rd Brigade since at least 2010. He is a member of a 53rd Brigade group on Odnoklassniki and is connected to several 2nd Battalion officers, but it is not clear if he was in the 2nd Battalion in 2014.



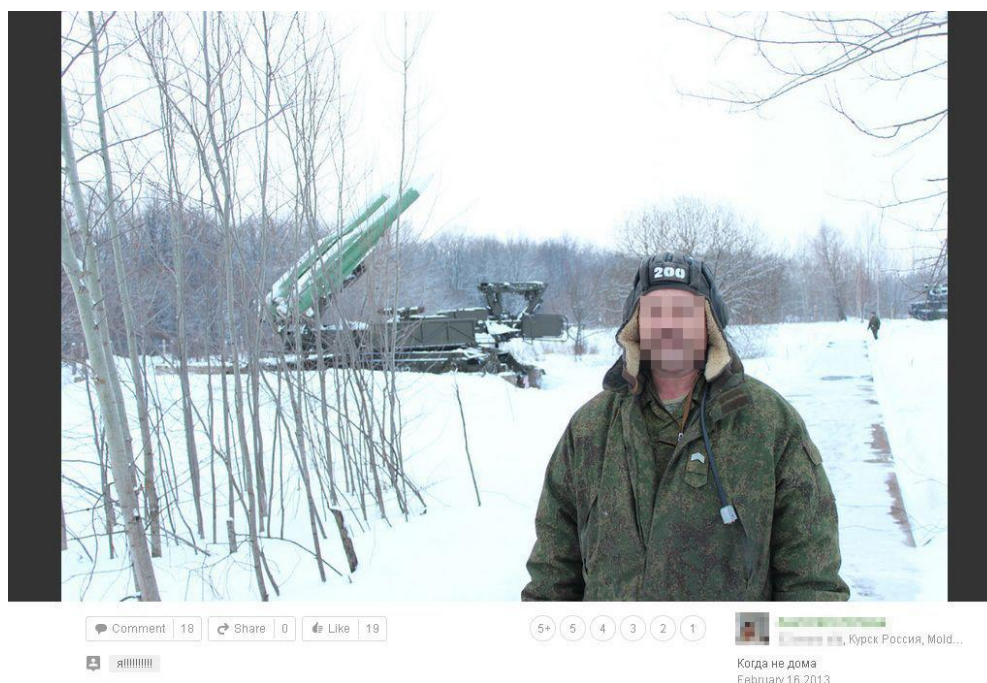
Left: Ilmir K., a major of the 53rd Brigade, 23 February 2015; right: Major Ilmir K. and his wife, 23 February 2014.

One of Ilmir K's colleagues is a commander named Alexey V.; he is also a major, but it is unknown when he received that rank. Photographs from 2013 show him as a major, and photos from 2011 show him as a member of the 53rd Brigade, evidenced by a photograph in his own album and a photograph in Vadim M.'s album (see previous subsection). According to an official source, Alexey V. is the head of a radar command post (Snow Drift radar), but it is not clear in which battalion. Since he is visible in a 2011 photograph in Vadim M.'s album together with Vadim M. and another 2nd Battalion officer, and he is connected on Odnoklassniki to a commander who used to be the commander of the 2nd Battalion, it is plausible he was in the 2nd Battalion, at least in 2011.



Left: Major Alexey V. and his wife, 5 January 2015;
 Right: Major Alexey V. (2nd from left), Major Oleg C. (middle), and Major Denis S. ('Fedor,' second from right).

One officer who was clearly in the 2nd Battalion, at least in 2013, is Anatoly K. While his profile does not show his rank in the army, two photographs in his album where he is wearing a helmet with the number 200 indicate that he is an officer with the Buk command vehicle 200. His age, which appears to be 52 years old, is an indication that he is an officer, though it is not conclusive. Anatoly K.'s profile does not show any military activity in 2014. It is noteworthy that he 'liked' some pro-Novorossiia images in 2014 and that he replied to a comment posted on 25 December 2014 by a Ukrainian woman under a photograph of his where he is wearing a 200 helmet: "If you take missiles to Ukraine, you will be knocked out, number two hundred on the helmet. cargo 200" ("Якщо ти поставив ці ракети на Україну то вже тобі вибила цифра двохсотий на шоломі. груз 200"). Cargo 200 is the Russian codename for a killed soldier returning from a warzone.¹⁰⁹ While she writes in Ukrainian, he answers in Russian, ironically: "I talked to her about beauty and she to me about politics" ("Я ей про красату а она мне про политику").



An officer named Anatoly K., rank unknown, wearing a helmet with the number 200, 16 February 2013.

The Bellingcat team found several more profiles of captains and majors with the 53rd Anti-Aircraft Missile Brigade, but it was not clear whether they were still in service in 2014, what battalion they were connected with, or what their specific function within the brigade was.

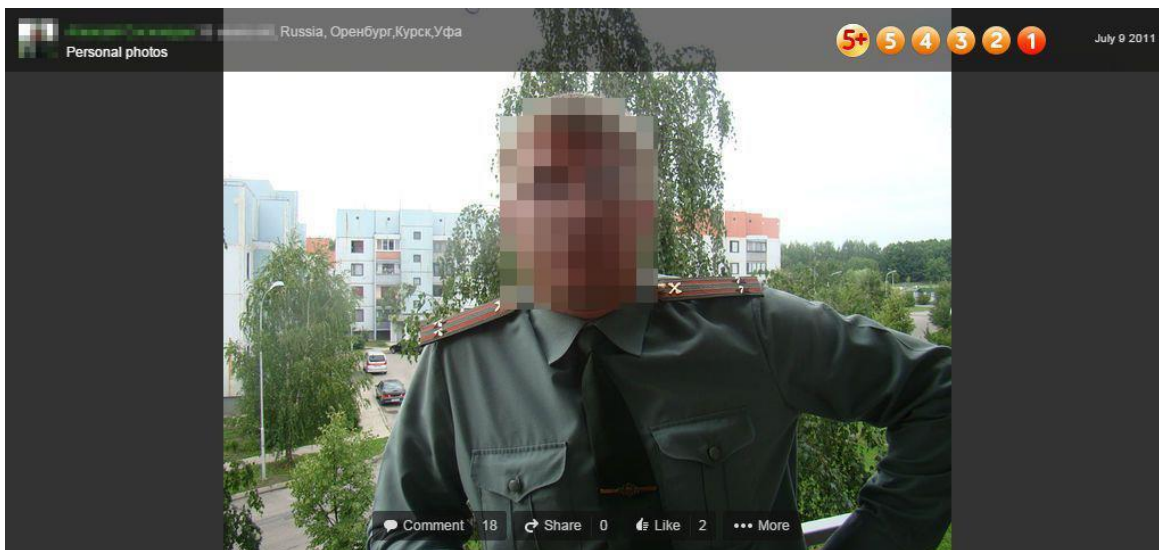
¹⁰⁹ <http://www.bbc.com/news/world-europe-30039004>
see also: [http://en.wikipedia.org/wiki/Cargo_200_\(code_name\)](http://en.wikipedia.org/wiki/Cargo_200_(code_name))

Commander of the 2nd Battalion in 2014

In the introduction, a name of a possible 2014 2nd Battalion commander was mentioned: Artyom Agibalov, whose name was in the Censor.net article and in two VK communities, along with a commander named Alexey S.

According to posts in these communities, Artyom Agibalov was a lieutenant in the 1st Battalion in 2009 and was transferred to the 2nd Battery of the 2nd Battalion in 2010. He was an officer in the 2nd Battalion on 23 May 2014, but it was not specified what type of officer he was nor whether he was a battalion commander. If he was a lieutenant in 2009, he must have made rapid progress to become a lieutenant colonel in 2014, so it is more likely that he was promoted to captain, maybe later even to major, and was a battery commander in 2014. Hardly any information could be found about Artyom Agibalov; social media profiles did not seem to fit. His name is mentioned on a team competition sheet, but it is not even clear if this is the same person.

Alexey S., who was the 2nd Battalion commander of the 53rd Brigade, has a profile on Odnoklassniki, but there is little information on it indicating that he was still a member of the 53rd Brigade. According to posts on the aforementioned VK communities, he was in the 2nd Battalion in 2010, but was no longer there in 2013. These posts, however, do not clarify whether he was transferred to another battalion or if he left the 53rd Brigade altogether. A post in one of the above VK communities (but in a different topic) says Alexey S. moved to a different military unit far away from Kursk. But, in conflicting information, a post made on 9 May 2014 says he was at that year's Victory Day parade and introduced as a lieutenant colonel of the 2nd Battalion. It is possible the person who posted this misunderstood the introduction because Alexey S. may have been introduced as a former commander of the 2nd Battalion. Apart from that last post, no other indication was found to establish that Alexey S. was still part of the 53rd Brigade in 2014.



Profile picture of Alexey S., uploaded July 2011.

A photograph posted on Odnoklassniki in 2014 identifies Dmitry T., who was very likely the 2nd Battalion commander of the 53rd Brigade in 2014. The photograph uploaded on 21 February 2014 by a 2nd Battalion soldier on Odnoklassniki shows a group of soldiers, several of whom can be identified as 2nd Battalion soldiers, and an officer. A comment under the photograph makes it clear that the officer in the image is Lieutenant Colonel Dmitry T., commander of the 2nd Battalion. A post from 31 March 2014 on a VK community of the 53rd Brigade, previously mentioned in this section, notes that Dmitry T. has been the commander since 2012. A post on a forum for soldiers' mothers (see Section Three)¹¹⁰ made on 5 December 2014 says that the commander of the 2nd Battalion is Dmitry T.



Group photograph showing commander of the 2nd Battalion Dmitry T. (the officer standing behind the table marked by a red circle), uploaded 21 February 2014.

Dmitry T., 39 years old and from Kursk, had profiles on Mail.ru and Odnoklassniki. It is clear that these profiles do not belong to another individual who coincidentally has the same name and lives in Kursk, as the profiles are connected to multiple profiles of another 53rd Brigade officer. In January 2016, soon after the publication at NOS (Dutch news) about Bellingcat's upcoming report, both profiles were removed. Before the profile deletions, the surnames on the accounts were changed.¹¹¹

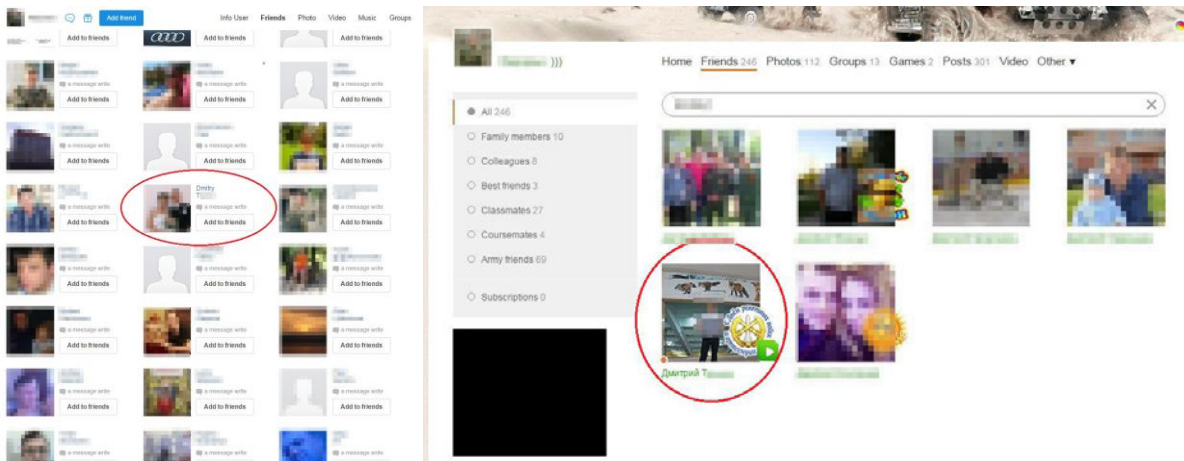
¹¹⁰ <http://prizyvnikmoy.ru>

¹¹¹ <http://nos.nl/artikel/2078421-onderzoeksgroep-twintig-russen-in-beeld-voor-neerhalen-mh17.html>



Left: Dmitry T. and his wife, Mail.ru, 2011; middle: Dmitry T. in front of Korrenaya Hermitage in Svoboda near Kursk, Mail.ru, 2012;¹¹² right: Dmitry T., on his Odnoklassniki profile.

One of Dmitry T.’s connections on both Mail.ru as Odnoklassniki is Denis ‘Fedor’ S. (see previous subsection), who has added Dmitry T. as friend on both social media networks.



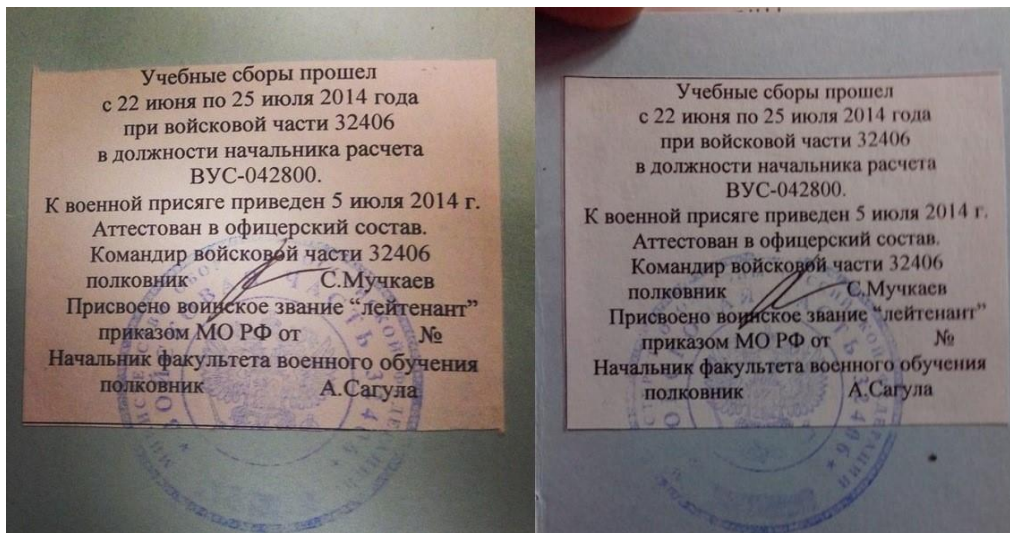
Left: Dmitry T. in Denis S.’s Mail.ru contact list; right: Dmitry T. in Denis S.’s Odnoklassniki contact list.

Bellingcat has come to the conclusion that Dmitry T. was very likely the commander of the 2nd Battalion of the 53rd Anti-Aircraft Missile Brigade between February and December 2014. He was therefore responsible for the 2nd Battalion in July 2014 when MH17 was downed by, very likely, Buk 3x2, a missile launcher part of the 53rd Anti-Aircraft Missile Brigade. Despite the fact that Dmitry T. likely stayed in the Rostov Oblast with the rest of the 2nd Battalion, he was the commander of the 2nd Battalion and therefore of the 23-25 June 2014 Buk convoy. Among all of the commanders in the 53rd Brigade, Dmitry T. would be one of the officers most likely to know the identities of the crew of Buk 3x2, in the likely case that Russian soldiers were part of the Buk’s crew. If the Buk crew consisted of Russian soldiers and officers, the crew may have been selected by Dmitry T. If the crew did not consist of Russian soldiers and officers, Dmitry T. very likely has a shared responsibility with other 53rd Brigade officers in the MH17 tragedy due to his battalion’s transport of Buk 3x2 to the Russia-Ukraine border and, likely, across the border.

¹¹² http://www.kurskroot.com/korennaya_hermitage_home.html
<http://www.panoramio.com/photo/59618608>

Commander of the 53rd Anti-Aircraft Missile Brigade in 2014

The introduction mentions Sergey Borisovich Muchkaev (found by Censor.net) as the commander of the 53rd Anti-Aircraft Missile Brigade in 2014. Bellingcat also found Muchkaev in 2014 and mentioned him in their first full report, *Origin of the Separatist's Buk*.¹¹³ Two photographs of certificates from cadets (students of a technical university) were included in the report. These certificates were signed by "S. Muchkaev" and "A. Sagula." Muchkaev is designated in writing as the commander of Unit 32406, the 53rd Anti-Aircraft Missile Brigade. The certificates were signed on or before 25 July 2014, as both cadets uploaded them on their VK profiles on 25 July 2014. Section Four describes the significance of these certificates and the activities these cadets participated in with the 53rd Brigade in full detail.



Two photographs of certificates from cadets included in the full report, *Origin of the Separatist's Buk*.

Apart from an April 2014 post in a 53rd Brigade VK community (as mentioned in the introduction) where Muchkaev is described as the brigade commander, two more posts in another 53rd Brigade VK community make clear Muchkaev still was the brigade commander in July 2015. According to official sources, Sergey Borisovich Muchkaev was indeed the commander of the 53rd Anti-Aircraft Missile Brigade (Unit 32406) in 2014.¹¹⁴ After investigating websites for images and videos of the annual military parade in Kursk, Muchkaev was found in two YouTube videos from 2014¹¹⁵ and one photograph from 2015. Four names are read aloud (at 4:30) in this video¹¹⁶: Alexander Vladimirovich Rodionov (commander of the 27th NBC-defense brigade, where NBC stands for Nuclear, Biological and Chemical),¹¹⁷ Vladimir Alexandrovich Rodionov (military commissar of Kursk),¹¹⁸ Andrey Viktorovich Avdeev (head of the Electronic Warfare Unit of the Western Military District),¹¹⁹ and Sergey Borisovich Muchkaev (commander of the 53rd Anti-Aircraft Missile Brigade).

¹¹³ <http://www.bellingcat.com/news/uk-and-europe/2014/11/08/origin-of-the-separatists-buk-a-bellingcat-investigation>

¹¹⁴ <http://sbis.ru/contragents/4611010810/461101001#msid=s1427711196758>

<http://www.prima-inform.ru/cat/cc/fbu-voyskovaya-chast-32406-1094611000990-4611010810>

¹¹⁵ <http://www.youtube.com/watch?v=pHJ1jnKsVHO>

<http://www.youtube.com/watch?v=rkMnzuWNNM50>

¹¹⁶ <http://youtu.be/pHJ1jnKsVHO?t=270>

¹¹⁷ <http://www.kpravda.ru/article/society/027263/>

<http://warfare.be/db/lang/rus/catid/321/linkid/2225/base/583/>

¹¹⁸ <http://www.dddkursk.ru/number/818/new/006811/>

¹¹⁹ <http://www.gikursk.ru/news/3414/>

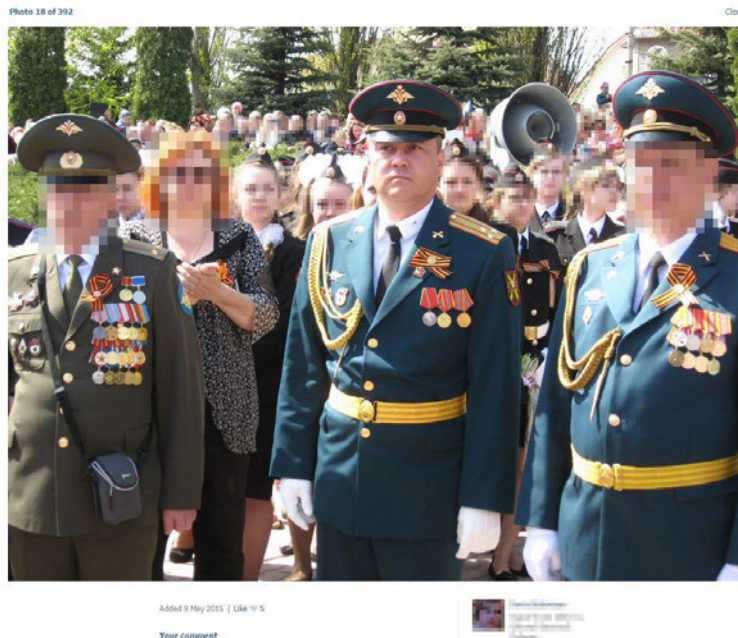
After the names have been read aloud, four officers step forward to the Memorial Complex, and the officer to the far left appears to wear a badge on his left sleeve worn by members of the 53rd Anti-Aircraft Missile Brigade. Later, when he turns, the medals on his uniform are visible, and, at the end of the video, he is visible standing between other officers waiting for the parade.



Left: Sergey Borisovich Muchkaev with the 53rd Anti-Aircraft Missile Brigade emblem on his left sleeve;
Right: Sergey Borisovich Muchkaev standing on the left, his insignia visible.

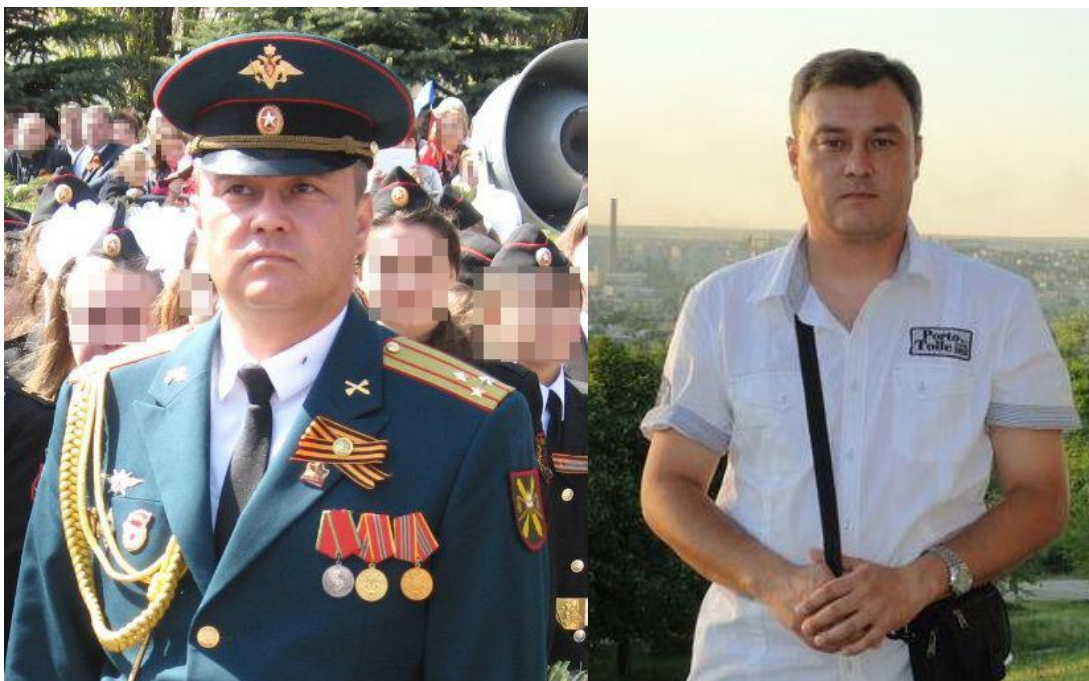
The 53rd Brigade has only one supreme commander, a colonel, as described earlier in this section. In addition to the unique badge that specifies the unit of a soldier or officer, the rank is also displayed on the uniform, with stripes and stars on the shoulders. As described above, a colonel – a senior officer – has two red vertical stripes and three stars.

The photograph of Sergey Borisovich Muchkaev shows the shoulder patch with the symbol of the 53rd Brigade, two stripes, and three stars on the uniform; the position of the medals and the yellow rope on the uniform also match the uniform that Muchkaev wears in the 2014 Kursk parade video.



Colonel Sergey Borisovich Muchkaev, the officer in the middle, commander of the 53rd Anti-Aircraft Missile Brigade, 9 May 2015 (to his right possibly Colonel Yuri G., the commander of Unit 35535, the 448th Missile Brigade).

The Bellingcat team also found social media profiles of Sergey Muchkaev on Odnoklassniki and Facebook. Photographs from his social media profiles confirm that the colonel visible in the photograph above is indeed Sergey Borisovich Muchkaev. One photograph in particular from his Odnoklassniki profile shows a striking similarity.



Left: Colonel Sergey Borisovich Muchkaev, 9 May 2015; right: Sergey Muchkaev on his Odnoklassniki profile.

Despite the fact the men in these photographs look identical and have the same name, this is no absolute guarantee that the social media profiles of Sergey Muchkaev belong to the same man that is Colonel of the 53rd Anti-Aircraft Missile Brigade. However, especially the Odnoklassniki profile shows enough details to be certain that it is the same person.

His Odnoklassniki profile does not mention anything about the 53rd Anti-Aircraft Missile Brigade, instead he describes himself being in military unit 48422, which is the 1143th Anti-Aircraft Missile Regiment in Nizhny Novgorod,¹²⁰ a military unit that operates Tor-M1.¹²¹ His profile also gives the information he used to be in military unit 30274, which is the 282th Anti-Aircraft Missile Regiment in Chebarkul,¹²² the place that Muchkaev on his Odnoklassniki profile also describes as his town of birth. A post on one of the 53rd Brigade VK communities where Muchkaev's name was mentioned before, says that Muchkaev was a senior lieutenant in a TOR-M1 unit in Chebarkul. The person who posted this, is connected via Odnoklassniki to the profile of Sergey Muchkaev.

¹²⁰ <http://sbis.ru/contragents/5263031720/526301001>
<http://vk.com/m48422>

¹²¹ <http://www.ok.ru/group/44453625790717>
<http://defense-update.com/products/t/tor.htm>

see also: http://en.wikipedia.org/wiki/Tor_missile_system

¹²² <http://vk.com/club11696588>

Personal information from Muchkaev's Odnoklassniki profile, where his birth date is mentioned (22 December 1976), the military units where he served: 30274 (from 1997 to 2004) and 48422 (from 2006 to 2008), but also about education he completed at an Anti-Aircraft Missile Command Academy (from 2000 to 2007).

The patronym 'Borisovich', which means that the first name of his father is Boris, is not mentioned on Muchkaev's Odnoklasniki profile. A post and photograph on his mother's profile confirm that his father is named Boris Muchkaev.

His profile is not connected to profiles of other officers or soldiers of the 53rd Brigade, but one noteworthy contact in his friends list (and to be more specific in his list of colleagues) is the father of Aleksander Donets, who was the commander of the 53rd Brigade from 2005 until 2009.

In January 2016 the Ukrainian group InformNapalm¹²³ also found Muchkaev's profile after the Ministry of Defense of the Russian Federation published information on 24 December 2015 about the Air Defense Forces, because of the 100-year anniversary of the Air Defense.¹²⁴ This publication also includes an overview of commanders of all anti-aircraft missile brigades, among them Colonel Sergey Borisovich Muchkaev, who became the commander of the 53rd Anti-Aircraft Missile Brigade in 2013.¹²⁵ Within a few hours after InformNapalm's publication, the Odnoklassniki and Facebook profiles of Sergey Muchkaev were deleted.

¹²³ <http://www.informnapalm.org>

¹²⁴ <http://mil.ru/files/files/pvo100/>

¹²⁵ <http://mil.ru/files/files/pvo100/page80289.html#rec3447023>
<http://archive.is/p3JnL>

53 зенитная ракетная бригада Западного военного округа

53 зенитная ракетная бригада сформирована 1 октября 1967 года на базе 268 отдельного зенитного ракетного полка на основании Директивы Генерального штаба от 13 июля 1967 года с дислокацией в городе Артик Армянской ССР. В состав бригады вошли 667, 679, 682 озрдн.

С 20 декабря 1968 года по 7 января 1969 года 53 бригада была передислоцирована из в Германскую Демократическую Республику, где вошла в состав 1 гвардейской танковой Армии ГСВГ с дислокацией: управление бригады и 682 озрдн — г. Альтенбург; 677 озрдн — г. Мерзенбург; 679 озрдн — г. Цейп;

С 1 октября 1970 года 53 зенитная ракетная бригада была передана в состав 20 гвардейской общевойсковой армии ГСВГ.

С 1 ноября 1986 года бригада перевооружена на ЗРК «Бук». В составе бригады был дополнительно сформирован 1578 озрдн, дислоцированный в г. Ошац.

Контрольные стрельбы бригады на полигоне «Эмба» были оценены на «хорошо». В 1992 году бригада выведена к новому месту дислокации — в Курскую область, где была передана в состав войск ПВО ордена Ленина Московского военного округа.

Бригада неоднократно выполняла боевые стрельбы на государственном полигоне Капустин Яр и полигоне Ашулук, показав достаточно высокий уровень знаний и мастерства личного состава, эксплуатации техники и вооружения, умения сберечь вверенные материально-технические средства, а также высокий уровень морально-психологической подготовки.



Мучкаев Сергей Борисович
командир 53 зенитной ракетной бригады,
полковник

Information about the history of the 53rd Anti-Aircraft Missile Brigade and a photograph of Colonel Sergey Borisovich Muchkaev, from the website of the Ministry of Defense of the Russian Federation, 24 December 2015.

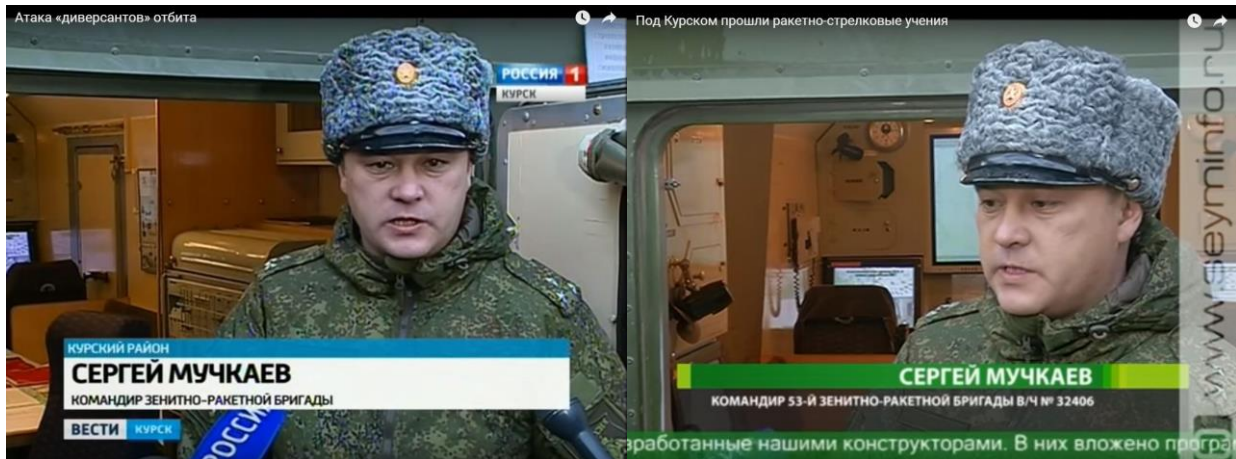
Командиры 53 зенитной ракетной бригады: полковник Попов И. П. (1967 – 1973), полковник Самойленко А. С. (1973 – 1977), полковник Дудченко Е. С. (1977 – 1983), полковник Ярчак Ю. А. (1983 – 1985), полковник Фильков Ю. В. (1985 – 1991), полковник Кондрашов И. П. (1991 – 1992), полковник Чернов Г. Н. (1992 – 2004), полковник Донец А. В. (2005 – 2009), полковник Кукушкин В. В. (2009 – 2011), полковник Золотов А. Ю. (2011 – 2013), полковник Мучкаев С. Б. (с 2013 по н.в.).

Names of all commanders of the 53rd Brigade since 1967, where Colonel Sergey Borisovich Muchkaev is mentioned from 2013. It is also noteworthy to mention the name Aleksey Yuryevich Zolotov, who had been commander of the 53rd Brigade from 2011 to 2013, and who will be described later in this section, since he promoted to a higher position in the army.

Also published on 24 December 2015 was an interview with Colonel Sergey Muchkaev, recorded by two different television stations. Apart from two articles published by both stations,¹²⁶ in which Muchkaev's name is mentioned, videos of an interview are available on YouTube, in which Muchkaev explains information about the exercises and system improvements within the brigade.¹²⁷ The videos also show another commander being interviewed, Andrey Kokhanov, apparently the head of the Air Defense of the Western Military District. This officer talks about software to spot airplanes that has been improved. Andrey Kokhanov will be described later this section.

¹²⁶ http://gtrkkursk.ru/lenta-novostei/24122015085234_1.html
<http://seyminfo.ru/pod-kurskom-proshli-raketno-strelkovie-ucheniya.html>

¹²⁷ <http://www.youtube.com/watch?v=WlfxXg5-GU&t=69>
<http://www.youtube.com/watch?v=1bmnOqEA92I&t=68>



Left: Colonel Sergey Borisovich Muchkaev, interview recorded by 'Rossiya 1 Kursk', video uploaded 24 December 2015;
Right: Colonel Sergey Borisovich Muchkaev, interview recorded by 'Seym', video uploaded 24 December 2015.

Sergey Muchkaev was the supreme commander of the 53rd Brigade in 2014 (and still is, as of this report's publication), and very likely the officer who decided to replace Buk 222 with Buk 3x2 (a 3rd Battalion Buk) in the 23-25 June 2014 Buk convoy of the 2nd Battalion. Because of his position, Colonel Sergey Borisovich Muchkaev is one of the officers in the chain of command responsible for the downing of MH17 in the case that Buk 3x2 downed MH17, as argued in previous Bellingcat publications. Even if the Buk crew did not consist of Russian soldiers and officers, Muchkaev was very likely responsible for the decision to send Buk 3x2 to the Russia-Ukraine border. However, he was not the officer who initially decided to send a Buk missile launcher to Ukraine. That decision was made at an even higher level: the level of the Air Defense in general, the Air Defense of the Western Military District, or the Air Defense of the 20th Army of the Western Military District, since the 53rd Anti-Aircraft Missile Brigade is a part of that military unit (see Section One).

Air Defense and Supreme Commanders in 2014

The decision to send a Buk missile launcher to Ukraine was certainly not made by the commander of the 53rd Anti-Aircraft Missile Brigade because the 53rd Brigade has no other air defense systems apart from the Buk system. That decision must have been made at a higher level of command, likely the level of the Air Defense of the 20th Army, the Air Defense of the Western Military District or the Air Defense in general. Other air defense brigades use other systems such as TOR-M1¹²⁸ and Strela-10,¹²⁹ with the latter being unable to hit a target higher than five kilometers (Russia did use 9M333 missiles for Strela-10 in 2014 that do not go higher than five kilometers). However, TOR-M1 is able to reach targets at a maximum height of 10 kilometers. The 49th Anti-Aircraft Missile Brigade, located in Yelyna near Smolensk, also uses the Buk-M1 system.

The decision to send a Buk missile launcher instead of another air defense system must have been made at a higher level. Section One, described how the 53rd Brigade is part of the 20th (Guards) Army that belongs to the Western Military District. In general, the Air Defense has a supreme commander, but the 20th Army and the Western Military District have commanders of their air defense too.

The introduction mentions Aleksey Yuryevich Zolotov (found by Censor.net), the former commander of the 53rd Brigade who, according to the article, became head of the air defense forces. Censor.net based their conclusion on a 23 May 2014 post in a VK community that says Zolotov was promoted to Chief of the Air Defense Forces. Official sources indeed mention him in October 2013 as commander of the 53rd Brigade,¹³⁰ and he can also be seen being interviewed in a 2012 YouTube video about the 53rd Anti-Aircraft Missile Brigade¹³¹ and in a YouTube video about air defense missile brigades in general and the development of Buk-M2.¹³² A more recent official source from 17 February 2014 makes it clear that Colonel Aleksey Zolotov was promoted to Chief of the Air Defense Forces of the 20th Army sometime between October 2013 and February 2014.¹³³ In the previous subsection, it is described that Zolotov was Commander of the 53rd Anti-Aircraft Missile Brigade until 2013, so he likely became Chief of the Air Defense Forces of the 20th Army in 2013 as well.



Colonel Aleksey Yuryevich Zolotov, previous commander of the 53rd Anti-Aircraft Missile Brigade, promoted to head of the Air Defense Forces of the 20th Army in 2013.

¹²⁸ <http://warfare.be/db/catid/264/linkid/1691/>

see also: http://en.wikipedia.org/wiki/Tor_missile_system

¹²⁹ <http://rbase.new-factoria.ru/missile/wobb/strela10m/strela10m.shtml>

see also: http://en.wikipedia.org/wiki/9K35_Strela-10

¹³⁰ <http://www.gikursk.ru/news/835/>

http://adm.rkursk.ru/index.php?id=955&mat_id=27237

¹³¹ <http://youtu.be/dLb3Y2pBCYo?t=71>

¹³² <http://www.youtube.com/watch?v=TKXXogGb4s&t=586>

¹³³ http://adm.rkursk.ru/index.php?id=741&mat_id=30636

Other images and videos where Zolotov is visible, albeit from a distance, are photographs and videos of the 70th anniversary of the victory of the Soviet Army in the Battle of Kursk, held on 23 August 2013, where Colonel Zolotov was one of the parade commanders (together with Major General Alexander Lapin, commander of the 20th Army of the Western Military District at that time, see later this subsection).¹³⁴

Although Zolotov is difficult to recognize in these photographs and videos, in one video three stars on the shoulder of his uniform are visible, confirming the person in the video is a Colonel.¹³⁵ The same video earlier shows this person making a short speech in front of another officer, probably Major General Alexander Lapin.¹³⁶ Another video uploaded on YouTube shows the same person standing in a car with license 'парад 02' ('parade 02')¹³⁷. Only one photograph from an album of this 2013 parade¹³⁸ shows his face,¹³⁹ but still from quite a distance, and it cannot be said with absolute certainty it is the same person visible in the 2012 videos where Colonel Alexey Zolotov is interviewed.



A photograph of the 70th anniversary of the victory of the Soviet Army in the Battle of Kursk military parade, 23 August 2013, the officer visible standing in a jeep facing the camera likely is Colonel Alexey Zolotov.

It is not certain that the apparent decision to send a Buk missile launcher to Ukraine was made by Zolotov, and if it was, the decision was certainly not made by Zolotov alone. This decision may have been made at an even higher level, by the Commander of the 20th Army, the Commander of the Air Defense of the Western Military District or the Commander of the Western Military District, combined with the Commander of the Air Defense troops of the Ground Forces and the Commander-in-Chief of the Ground Forces.

¹³⁴ <http://regnum.ru/news/1698397.html>
<http://mil.ru/elections/news/more.htm?id=11826772>
<http://www.kp.ru/online/news/1518163>

¹³⁵ <http://youtu.be/D1I48Rz0PY0?t=605>

¹³⁶ <http://youtu.be/D1I48Rz0PY0?t=132>

¹³⁷ http://youtu.be/Y1p9My_rWOo?t=82

¹³⁸ <http://astrokursk.ru/fotografii-kurska/foto-reportazhi/2013/voennyi-parad-v-kurske-photo-1.html>

¹³⁹ <http://archive.is/yXhWv>

A news article from 18 September 2013 says that the head of the 20th Army (officially called the 20th Guards Combined Armed Forces) is Alexander Pavlovich Lapin, with the rank of major general.¹⁴⁰ He became head of the 20th Army on 2 April 2012¹⁴¹ and is the same person visible in the 70th anniversary of the victory of the Soviet Army in the Battle of Kursk video with Colonel Alexey Zolotov. However, an official article on the website of the Russian Ministry of Defense makes it clear that Lapin was succeeded by Major General Alexander Yuryevich Chaiko on 8 July 2014.¹⁴² A photograph in the article shows Chaiko on the left, Lieutenant General Viktor Astapov in the middle, and Alexander Lapin on the right. Lapin was eventually promoted to lieutenant general and became head of the Eastern Military District. Other sources confirm these changes in the Russian Army on 8 July 2014.¹⁴³



Left: Major General Alexander Pavlovich Lapin, head of the 20th Army until 8 July 2014;
Right: Major General Alexander Yuryevich Chaiko, head of the 20th Army since 8 July 2014.



Succession of Lapin (right) by Chaiko (left) under supervision of Astapov (middle).

¹⁴⁰ <http://www.novayagazeta.ru/society/60047.html>

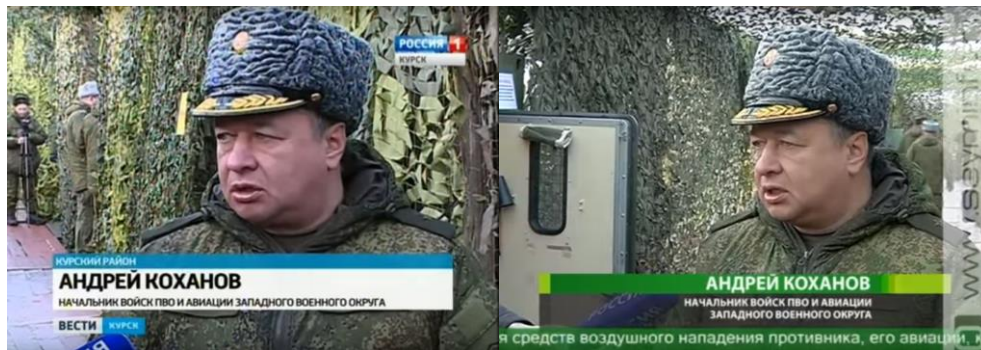
¹⁴¹ <http://mil.ru/elections/news/more.htm?id=11054402@egNews>

¹⁴² http://function.mil.ru/news_page/country/more.htm?id=11968356@egNews

¹⁴³ http://okp.mil.ru/separated_commandant_regiment/honour_book/info.htm?id=11122663@SD_Employee

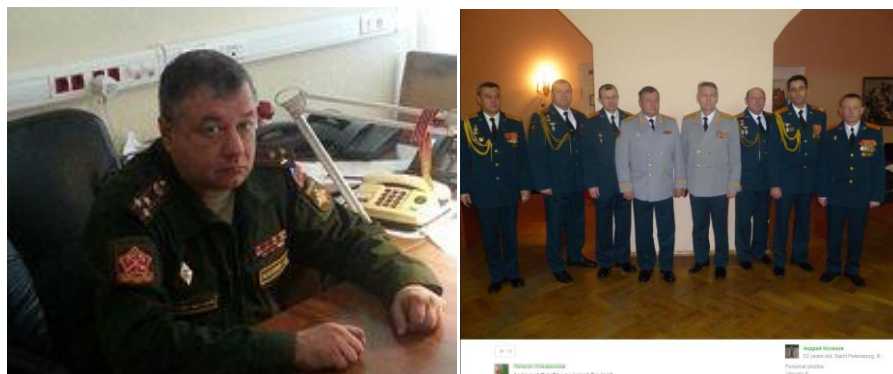
¹⁴³ <http://www.niann.ru/?id=456290>
<http://newsnn.ru/news/123282>

As mentioned earlier this section, published articles¹⁴⁴ and uploaded videos on 24 December 2015¹⁴⁵ showing an interview with Colonel Sergey Muchkaev also show an interview with Major general Andrey Anatolyevich Kokhanov, head of the Air Defense of the Western Military District, as he is described in an article on the Ministry of Defense website.¹⁴⁶ Another article on this website, about the history of Air Defense of the different military districts, describes him as a colonel and head of the Air Defense and aviation of the Western Military District,¹⁴⁷ thus he was likely promoted to major general recently. It is unknown exactly when Kokhanov was promoted to this position and rank. In December 2011, an official source¹⁴⁸ mentions Major General Kirill Vladimirovich Makarov as head of the Air Defense of the Western Military District. He became the deputy commander of the Aerospace Defense Forces in February 2013.¹⁴⁹ It is likely Kokhanov took the position of head of the Air Defense and aviation of the Western Military District in 2013, but an official source to confirm this conclusion has not been found.



Major general Andrey Anatolyevich Kokhanov, head of the Air Defense of the Western Military District, 24 December 2015.

Kokhanov's profile on Odnoklassniki does not provide this information, but it displays his military history since 1987 and an anti-aircraft missile regiment history since 1990. A photograph uploaded to his profile shows several anti-aircraft missile brigade commanders, including Sergey Muchkaev.



Left: Andrey Anatolyevich Kokhanov, then still a colonel; right: Kokhanov (4th from left) on his OK profile with Muchkaev (left).

¹⁴⁴ http://gtrkkursk.ru/lenta-novostei/24122015085234_1.html

<http://seyminfo.ru/pod-kurskom-proshli-raketno-strelkovie-ucheniya.html>

¹⁴⁵ <http://www.youtube.com/watch?v=WlfxXg5-GU&t=113>

<http://www.youtube.com/watch?v=1bmnQkEA92I&t=39>

¹⁴⁶ http://function.mil.ru/news_page/country/more.htm?id=12072297@egNews

¹⁴⁷ <http://mil.ru/files/files/pvo100/page80286.html>

¹⁴⁸ <http://www.spmi.ru/node/3550>

¹⁴⁹ <http://syria.mil.ru/news/more.htm?id=11654052@egNews>

Official sources state that the Commander of the Western Military District in 2014 was a man named Anatoliy Alekseyevich Sidorov, who ascended to this position on 24 December 2012 and reached the rank of colonel general on 20 February 2013.¹⁵⁰ In November 2015 Sidorov was succeeded by Colonel General Andrey Valeryevich Kartapolov, who had been chief of staff or deputy commander of the Western Military District until June 2014.¹⁵¹ The position of chief of staff or deputy commander was taken over by Lieutenant General Viktor Borisovich Astapov on 21 June 2014.¹⁵² This is the same Viktor Astapov who presented Alexander Chaiko as the new Commander of the 20th Army on 8 July 2014. On 14 June 2015, he was placed on Ukraine's list of criminals of war.¹⁵³



Left: Anatoliy Alekseyevich Sidorov, Colonel general, Commander of the Western Military District in 2014;
Right: Viktor Borisovich Astapov, Lieutenant general, Deputy Commander of the Western Military District since 21 June 2014.

Despite these changes in the Russian army shortly before the MH17 tragedy, it remains unclear who made the decision to send a Buk missile launcher to Ukraine, or when the decision was made. Since Buk missile launcher 3x2 was part of the 23-25 June 2014 Buk convoy, the decision was likely made before Viktor Astapov became chief of staff or deputy commander of the Western Military District and very likely before Alexander Chaiko became head of the 20th Army, because Chaiko became head of the 20th Army after a Buk missile launcher was already transported to the Rostov Oblast. These changes to the staff of the Russian army are noteworthy, since they took place during the period when Russia decided to play a more active role in the conflict in Ukraine.

Other officers who likely had an influence on the decision to send a Buk missile launcher to Ukraine are the Commander-in-chief of the Ground Forces, Colonel General Oleg Leonydovych Salyukov,¹⁵⁴ and the Commander of the Air Defense Troops of the Ground Forces since October 2010,¹⁵⁵ Lieutenant General Alexander Petrovich Leonov,¹⁵⁶ He took over this position from Major General

¹⁵⁰ http://structure.mil.ru/management/info.htm?id=11670664@SD_Employee

¹⁵¹ <http://eng.mil.ru/en/structure/okruga/west/head.htm>

¹⁵² http://function.mil.ru/news_page/country/more.htm?id=12006035@egNews

¹⁵³ <http://psb4ukr.org/criminal/astapov-viktor-borisovich/>

¹⁵⁴ http://structure.mil.ru/management/combatant_arms/more.htm?id=10336066@SD_Employee

see also: http://en.wikipedia.org/wiki/Oleg_Salyukov

see also: http://en.wikipedia.org/wiki/Russian_Ground_Forces

¹⁵⁵ [http://ru.wikipedia.org/wiki/Войска_противовоздушной_обороны_\(Сухопутные_войска\)](http://ru.wikipedia.org/wiki/Войска_противовоздушной_обороны_(Сухопутные_войска))

¹⁵⁶ <http://army-staff.ru/vidy-vs-rf/sukhoputnye-vojska/vojska-pvo-sukhoputnykh-vojsk.html>

http://old.redstar.ru/2010/12/25_12/1_02.html

<http://www.rg.ru/2015/08/10/kompleks-site.html>

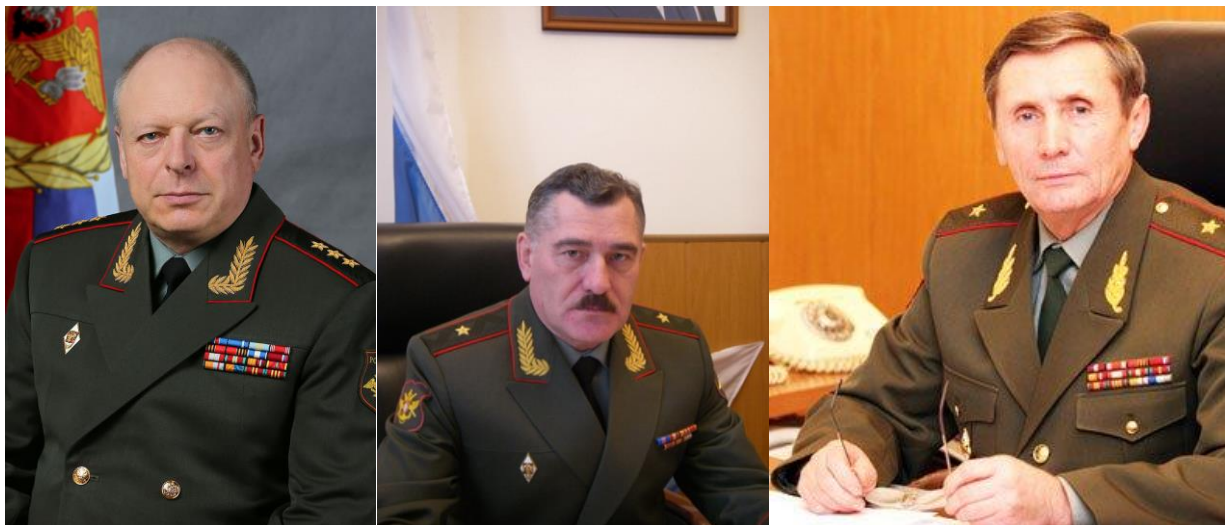
http://function.mil.ru/news_page/country/more.htm?id=12013129@egNews

<http://vpk-news.ru/articles/24155>

<http://mil.ru/files/files/pvo100/page78744.html>

see also: http://ru.wikipedia.org/wiki/Леонов,_Александр_Петрович

Mikhail Kondratyevich Krush,¹⁵⁷ who was interviewed by a Novorossiya news agency, which still referred to him as head of the Air Defense Forces¹⁵⁸ on 30 July 2014 regarding the MH17 tragedy. With tragic irony, an interview with Leonov was aired on Russian state television on 17 July 2014 at 17:40 local time, just 20 minutes after MH17 was downed in Ukraine.¹⁵⁹



Left: Colonel General Oleg Leonydovych Salyukov, Commander-in-chief of the Ground Forces since May 2014;
Middle: Alexander Petrovich Leonov, Commander of the Air Defense troops of the Ground Forces since October 2010;
Right: Mikhail Kondratyevich Krush, Commander of the Air Defense troops of the Ground Forces until October 2010.

Finally, the decision to send military equipment from the Air Defense Forces in general was likely made at an even higher level: the Russian Ministry of Defense. The staff of the management of the Ministry of Defense consists of several generals and other staff members who no longer hold a military rank.¹⁶⁰

The officers with the highest positions in 2014 were First Deputy Minister of Defense, General of the Army¹⁶¹ Arkady Viktotovich Bakhin (former head of the Western Military District)¹⁶², who either resigned or was dismissed on 17 November 2015,¹⁶³ Chief of the General Staff and First Deputy Minister of Defense, General of the Army Valery Vasilevich Gerasimov,¹⁶⁴ the Minister of Defense, General of the Army Sergey Kuzhugetovich Shoygu,¹⁶⁵ and, of course, the President of the Russian Federation, Vladimir Vladimirovich Putin, who serves as the supreme commander of the Russian Armed Forces.¹⁶⁶

¹⁵⁷ <http://www.arms-expo.ru/news/archive/general-mayor-mihail-krush-naznachen-nachal-nikom-voyskovoy-pvo-03-11-2008-11-15-00/>

¹⁵⁸ <http://novorus.info/news/events/25960-general-pvo-buk-ne-sbival-boing.html>

¹⁵⁹ <http://www.youtube.com/watch?v=EVR558v5DLQ>

¹⁶⁰ <http://structure.mil.ru/management.htm>

¹⁶¹ <http://www.rg.ru/2012/05/28/vyplaty-dok.html>

see also: [http://en.wikipedia.org/wiki/General_of_the_army_\(Russia\)](http://en.wikipedia.org/wiki/General_of_the_army_(Russia))

¹⁶² http://structure.mil.ru/management/info.htm?id=10330380@SD_Employee

¹⁶³ <http://rushincrash.com/forces/army-force-structures/fired-first-deputy-defence-minister-arkady-bakhin>

¹⁶⁴ http://structure.mil.ru/management/info.htm?id=11113936@SD_Employee

¹⁶⁵ http://structure.mil.ru/management/minister.htm?id=11445111@SD_Employee

¹⁶⁶ http://structure.mil.ru/management/leader.htm?id=10330475@SD_Employee



Left: Arkady Viktorovich Bakhin, First Deputy Minister of Defense (until 17 November 2015);
 Second from left: Valery Vasilevich Gerasimov, First Deputy Minister of Defense;
 Second from right: Sergey Kuzhugetovich Shoygu, Minister of Defense;
 Right: Vladimir Vladimirovich Putin, president of the Russian Federation, Supreme Commander of the Russian Armed Forces.

Although it is likely that the head officials of Ministry of Defense did not explicitly decide to send a Buk missile launcher to Ukraine, the decision to send military equipment (with or without crew) from the Air Defense Forces to Ukraine was likely made at a very high level and, therefore, the Russian Ministry of Defense bears the main responsibility for the downing of MH17, in the likely case that Russia's Buk 3x2 missile launcher was the weapon used.

This responsibility is shared with separatist leaders of the Donetsk People's Republic and (to a lesser extent) the Luhansk People's Republic. The leaders of these self-proclaimed republics are outside of the scope of this report, since they did not serve in the 53rd Anti-Aircraft Missile Brigade or (officially) in the Russian army in 2014.

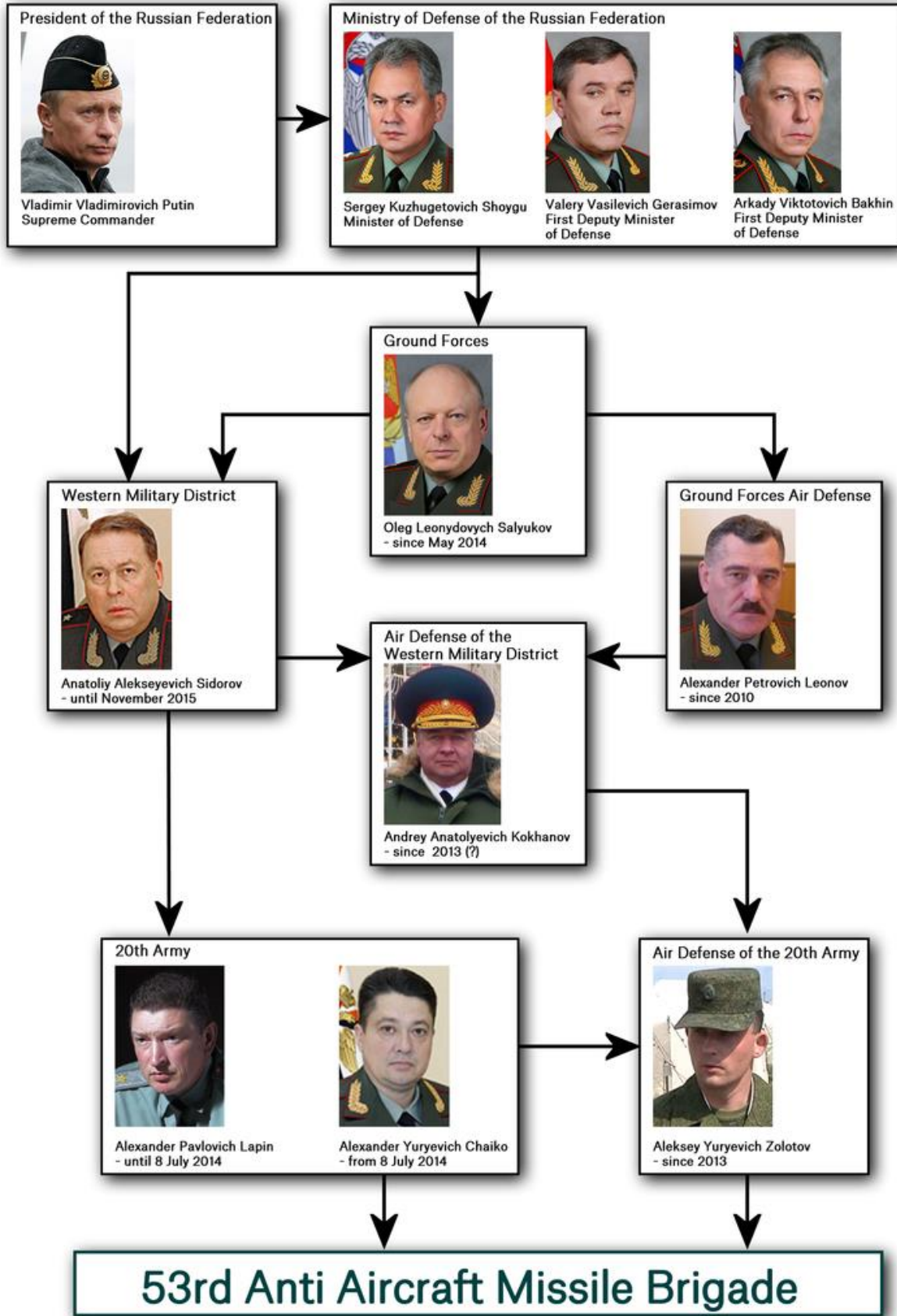
The Main Intelligence Directorate of Russian Armed Forces, GRU (formally now known as **Главное управление**, or GU) was also implicated by the SBU wiretaps regarding the movements of the Buk missile launcher. In its official sanctions, the EU specifically mentioned former GRU head Lieutenant General Igor Sergun,¹⁶⁷ who died suddenly in early January 2016¹⁶⁸, as being responsible for activity of GRU officers in eastern Ukraine. Another former GRU officer who was very likely involved in the downing of MH17 is Sergey Nikolayevich Petrovsky, known as "Khmuryi", who was recognized by Ukraine on tapped phone conversations.¹⁶⁹

The next pages show a hierarchical scheme of the command structure in the Russian army from the President of the Russian Federation and the Ministry of Defense of Russia to the level of Buk unit commanders in the 2nd Battalion of the 53rd Anti-Aircraft Missile Brigade.

¹⁶⁷ <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014R0433>

¹⁶⁸ <http://www.bbc.com/news/world-europe-35226131>

¹⁶⁹ <http://euromaidanpress.com/2014/07/18/sbu-intercept-of-terrorist-conversation-proves-they-had-buk-m-in-possession>
<http://www.nrc.nl/nieuws/2015/04/01/russian-officer-recognized-on-tape-by-dutch-investigation-team-mh17>



53rd Anti-Aircraft Missile Brigade - Kursk


Commander
53rd Anti-Aircraft Missile Brigade

Sergey Borisovich Muchkaev
- since 2013/2014




Commander
2nd Battalion of the 53rd Brigade

Dmitry T.
- at least since 2012

Battery commanders of the 2nd Battalion

 Aleksey K. - at least since 2011	 Rafael A. - at least since 2014	 Dmitry K. - at least since 2011
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Commanders of the Buk unit vehicles of the 2nd Battalion

 Konstantin M. - at least since 2012	 Igor S. - at least since 2013	 Evgeny G. - at least since 2013	 Vitaly K. - at least since 2013	 Evgeny M. - at least since 2012
 Vladimir P. - at least since 2013	 Vadim M. - at least since 2010	 Sergey P. - at least since 2010	 Sergey O. - at least since 2012	 Pavel K. - at least since 2013

Conclusions

The Bellingcat investigation team comes to the following conclusions:

- In 2014, the 53rd Anti-Aircraft Missile Brigade consisted of three battalions, each of them divided into three batteries. A complete Buk system of a battalion in the 53rd Brigade consisted of six Buk missile launchers, three Buk missile loaders, one Snow Drift radar, and one command vehicle. Each battery of the 53rd Brigade consisted of two Buk missile launchers and one Buk missile loader.
- The 23-25 June 2014 Buk convoy transported Buk vehicles, other military vehicles, and soldiers/officers of the 2nd Battalion. Some of the vehicles were replaced by 3rd Battalion or unknown Buk vehicles. The destination of that convoy was the Millerovo military airbase; units of the convoy were subsequently transported to a rural area to the west and southwest of Millerovo, near the Russia-Ukraine border.
- The 19-21 July 2014 Buk convoy transported Buk vehicles, other military vehicles, and soldiers/officers of the 1st Battalion. The destination of that convoy was a rural area southwest of Kamensk-Shakhtinsky – likely a military camp in that area – near the Russia-Ukraine border.
- The soldiers of the 2nd Battalion of the 53rd Anti-Aircraft Missile Brigade who were in military service in 2013 were not involved in the 23-25 June 2014 Buk convoy and were not deployed to the Rostov Oblast in the summer of 2014, since their service ended late 2013 or early 2014. However, some of these soldiers may have signed up as contract soldiers after their military service was fulfilled.
- The soldiers of the 3rd Battalion of the 53rd Anti-Aircraft Missile Brigade who were in military service in 2014 were not involved in the 23-25 June 2014 Buk convoy. In 2014, none of them posted a picture of a convoy, a training camp, or an area similar to the border area in the Rostov Oblast.
- Soldiers of the 2nd Battalion of the 53rd Anti-Aircraft Missile Brigade who were in military service in 2014 took part in the 23-25 June 2014 Buk convoy and were deployed in an area west and southwest of Millerovo in the Rostov Oblast in the summer of 2014. Many soldiers of the 2nd Battalion posted images of the convoy or of themselves in a rural area. Image captions sometime mention a border area or the images have geotags in the Rostov Oblast. These soldiers stayed for almost three months (from June to September 2014) in the border area of the Rostov Oblast. Among these soldiers, it is possible that one or two contract soldiers or reservists were part of the crew of Buk 3x2, which very likely downed MH17.
- Soldiers of the 1st Battalion of the 53rd Anti-Aircraft Missile Brigade who were in military service in 2014 took part in the 19-21 July 2014 Buk convoy and were deployed in an area southwest of Kamensk-Shakhtinsky in the Rostov Oblast in July and August 2014. Afterward, part of the convoy was transported to Kapustin Yar, a training area near the Russia - Kazakhstan border.
- A Buk crew usually consists of two soldiers (an operator and a driver) and two officers (a sergeant and a lieutenant). The lieutenant is the detachment commander who makes the decision to fire a missile, as this officer is the only commissioned officer.

- The 2nd Battalion of the 53rd Brigade had six missile launchers and three missile loaders in 2014. These nine vehicles were commanded by detachment commanders (lieutenants). Bellingcat has identified ten lieutenants who were detachment commanders of Buk missile launchers, Buk missile loaders, and a Buk Snow Drift Radar in 2014. From some of these lieutenants, connections can likely be made to a specific missile launcher or loader.
- Buk 222 was replaced in the 23-25 June 2014 Buk convoy by Buk 3x2. If Russian officers and soldiers were part of the Buk 3x2 crew, it is very likely that the officers and soldiers who usually operate Buk 222 were part of the Buk 3x2 crew, but there is no direct evidence to support this conclusion.
- Three battery commanders of the 2nd Battalion of the 53rd Brigade (Aleksey K., Rafael A. and Dmitry K.) were very likely serving in 2014, but it is not known which batteries they commanded. One of these commanders was photographed together with 2nd Battalion lieutenants in a rural area. This photograph was uploaded on 21 July 2014 and indicates their likely presence in the Rostov Oblast in July 2014.
- The battalion commander of the 2nd Battalion of the 53rd Brigade was very likely Dmitry T. in 2014. This commander was likely responsible for the transport of 2nd Battalion vehicles in the 23-25 June 2014 Buk convoy to the Rostov Oblast, including Buk 3x2. If the Buk crew consisted of Russian soldiers and officers, they were likely selected by Dmitry T. and/or the 53rd Brigade commander Sergey Borisovich Muchkaev. If that is the case, then he knows the identities of the soldiers and/or officers who operated Buk 3x2.
- The brigade commander of the 53rd Brigade in 2014 has been identified by Censor.net and Bellingcat as Sergey Borisovich Muchkaev. Since he was the highest-ranking commander of the 53rd Brigade, it was most likely his decision to replace the 2nd Battalion Buk missile launcher 222 with the 3rd Battalion Buk missile launcher 3x2, and to send Buk 3x2 to the Rostov Oblast, where it was subsequently transported to Ukraine. If the Buk crew consisted of Russian soldiers and officers, Muchkaev was responsible for selecting and transporting Buk 3x2. He and/or Dmitry T. were likely responsible for selecting the crew of Buk 3x2.
- The commander of the Air Defense of the 20th Army in 2014 was Aleksey Yuryevich Zolotov, and the commander of the 20th Army was Alexander Pavlovich Lapin until 8 July 2014, after which it was Alexander Yuryevich Chaiko. The commander of the Air Defense of the Western Military District in 2014 was Andrey Anatolyevich Kokhanov, the commander of the Western Military District in 2014 was Anatoliy Alekseyevich Sidorov in 2014, and the Chief of Staff or First Deputy Commander of the Western Military District in 2014 was Viktor Borisovich Astapov beginning on 21 June 2014. The commander of the Air Defense overall in 2014 was Alexander Petrovich Leonov, and the commander of the Ground Forces overall in 2014 was Oleg Leonydovich Salyukov. It is likely that the decision to send a Buk-M1 system to the Rostov Oblast and a Buk missile launcher to Ukraine was made at the level of the Air Defense of the 20th Army, the Air Defense of the Western Military District, or the overall Air Defense. It is unclear at exactly which level the decision was made and by which commander(s).
- The decision to send military equipment to the Russia-Ukraine border and to Ukraine was made at an even higher level – the level of the Ministry of Defense of Russia, where the top positions in 2014 were fulfilled by First Deputy Minister Arkady Viktotovich Bakhin, First Deputy Minister Valery Vasilevich Gerasimov, Minister Sergey Kuzhugetovich Shoygu, and President of the Russian Federation Vladimir Vladimirovich Putin. Consistent with the probable conclusion that the Russian Buk missile launcher 3x2 downed MH17, the Ministry of Defense bears the main responsibility for the MH17 tragedy, shared with the military commanders and leaders of the self-proclaimed Donetsk and Luhansk People's Republics.

Acknowledgments

Report written by:

Daniel Romein

Review, corrections, and translations by:

Aric Toler
Nathan Patin
Iesh Lal

Research and contributions by:

Timmi Allen
Klement Anders
Eliot Higgins
Pieter van Huis
Veli-Pekka Kivimäki
Iggly Ostanin
Daniel Romein
Aric Toler

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