

VAYU

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Aerospace & Defence Review



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Flying branches of the Zbroynykh Syl Ukrayiny



Night shot of a Su-27 'Flanker'

The current conflict in the Ukraine prompted us to give an overview of the flying branches of the Zbroynykh Syl Ukrayiny or Ukrainian Armed Forces. Focus is on operational units (fighters, transport etc.), training units are outside the scope of this overview.

Brief history

In 1991, the Soviet Union dissolved and the Ukraine became independent. Lots of former Soviet Air Force aircraft and helicopters stayed behind in the Ukraine as payment for the debts the Soviet government had, some 1500 in total. However due to a lack of pilots and maintenance personnel, many of these were withdrawn quickly. In 2003, a large reorganisation was done, which meant closure of a range of airbases and withdrawal of more aircraft types (e.g. Tu-22, MiG-23, MiG-25, Su-15 and Su-17 of the air force, Yak-38 and Ka-25 of the navy as well as Mi-2 and Mi-6 helicopters of the army). Many of the remaining aircraft however went through an extensive modernisation programme, which made more aircraft available for use. After the Russian annexation of the



An-26 called "Phoenix" that returned to service after years of storage



One of the An-30 photographic reconnaissance aircraft

Crimea in 2014, dozens more aircraft have been overhauled, modernised and returned to service. These even include two An-26 transport aircraft that have been fully overhauled by volunteers after they had been in storage for years. One of those is fittingly called “Phoenix”. Furthermore, new aircraft and especially helicopters have been ordered and delivered since.

Ukraine Air Force (Povitryani Syly Ukrainy)

The air force consists of seven fighter regiments and three transport regiments. The former have providing combat and reconnaissance support to ground forces as the main tasks, supplemented with air defence and maintaining air superiority within the national airspace during conflicts. Main tasks of the transport regiments are tactical and strategic transport during conflicts.

Three brigades operate the Mikoyan-Gurevich MiG-29 ‘Fulcrum’: 114 BrTA (Tactical Aviation Brigade) at Ivano/Frankivs’k, 204 BrTA at Lutsk and 40 BrTA at Vasylkiv. They all consist of two squadrons and each flies the MiG-29 fighter aircraft plus a few Aero L-39 Albatross as squadron hack. Furthermore, there are two brigades with the Sukhoi Su-27 ‘Flanker’, the only aircraft in the world that can do the famous Cobra manoeuvre. These are the 39 BrTA at Ozerne-Zhytomyr and the 831 BrTA at Myrgorod. Both brigades have two squadrons of Su-27 plus few L-39. Together these five brigades form the air defence of the Ukraine.

The airbase Mikolaev-Kulbakino on the Southern coast is shared with the naval air brigade. Their Sukhoi Su-25 ‘Frogfoot’ ground attack aircraft have been handed over to the air force at the end of the 20th century and have been based here with the air force since. The two squadrons that operate them fall under the 299 BrTA. There is also a separate third squadron that flies the L-39 Albatros.

The last fighter brigade is 7 BrTA at Starokostiantyniv, or Staro as it is affectionately known. Based here are three squadrons with Sukhoi Su-24 ‘Fencer’ fighter-bombers plus some L-39 Albatros. The Fencer is unique in the Ukrainian inventory as it has swing-wings, giving it supersonic capabilities, and a side-by-side cockpit for its crew of two. Probably also based here is the 383 opDKLA



Vinnytsia based An-26 air ambulance



Largest Ukrainian transport aircraft Il-76 ‘Candid’



Staro-based Su-24 with brake chute deployed

(Separate UAV Regiment) who were the first unit in the Ukraine to receive the Turkish built Bayraktar TB2 drones that can be armed or can be used for reconnaissance. They also operate some Soviet built Tu-141 and Tu-143 drones. These have been designed to do reconnaissance, but during the recent conflict at least a few have been crudely converted to be used with bombs attached. One of those crashed in Croatia after it malfunctioned and flew over Romania and Hungary first.

Then there is the transport capacity. Two of the transport brigades are 15 OBrTrA (Transport Aviation Brigade) at Kyiv-Boryspil and 456 OBrTrA at Vinnytsia. The different squadrons operate a few dozen Antonov An-24 'Coke', An-26 'Curl' and An-30 'Clank' cargo and reconnaissance aircraft, the Tupolev Tu-134 'Crusty' for people transport aircraft and multiple versions of the well-known Mil Mi-8 and Mi-9 'Hip' helicopters. The third transport brigade is the 25 OBrTrA at Melitopol, which operates the heavy transport aircraft of the Ukrainian air force. They have two squadrons that fly the Ilyushin Il-76 'Candid' plus a third with the smaller An-26 'Curl'. In the past also Il-78 'Midas' tanker aircraft were used, but these have been converted to regular Il-76 transport aircraft by now.

Naval Aviation Brigade (Brygada Morska Aviatsiya)

At the end of the 20th century, the navy transferred all its MiG-29 and Su-25 fighter aircraft to the air force, keeping only patrol aircraft and helicopters. From 2004 until 2014, all naval aviation units were concentrated at Saki airbase at The Crimea. When Russia invaded there in 2014, the flying units of the naval forces retreated to Mikolaev – Kulbakino, a former naval airbase now in use by the air force, leaving behind a large number of aircraft and helicopters. Most of those were in storage or maintenance and were not ready in time to be flown away. Four Kamov Ka-29 anti-submarine helicopters did make the move to Nikolaev, but since all their logbooks and maintenance records were left behind, these haven't flown since. However, other helicopters were evacuated in time or were returned by the Russians later on.

Main tasks of the naval aviation units are maritime patrol, coastal defence, anti-submarine warfare, search and rescue and



Su-27 'Flanker' taking off in evening light



Su-27 'Flanker' in old colour scheme



Flightline at Myrgorod with Su-27s



One of many L-39 used as squadron hacks

transport. The Naval Aviation Brigade consists of three squadrons. The Naval Aviation Squadron operates all fixed wing aircraft of the naval aviation forces. These comprise of 2 An-26 'Curl' transport aircraft that are actually equipped with bomb racks as well. Furthermore, there are three An-2 'Colt' plus a couple of Be-12 'Mail' flying boats. Noteworthy is that one of the An-2s has recently been donated by a private individual in an act of patriotism while another one has been confiscated after smuggling actions and then delivered to the navy. Also two more An-26s were expected, but whether these have actually been delivered before the current conflict started is unknown. The Naval Helicopter Squadron obviously operates the helicopters, which are a handful of Ka-27 'Helix', a single brand new Ka-226 'Hoodlum', four Mi-14 'Haze', another four Mi-8 "Hip" and a single Mi-2 'Hoplite'. The Hips are Mi-8MTB-V versions that have been recently upgraded by Motor Sich in Zaporizhzhya. Some older Mi-8 that had been stored for a while were also planned to be upgraded by Motor Sich, but their current status is unknown. The newest addition to the aviation brigade is the Naval Unmanned Squadron. This unit operates the Turkish built armed Bayraktar TB2 UAVs, of which the first have been delivered in 2021.

Army Aviation (Armiyska Aviatsiya)

The Ukrainian army has been an active participant in the peace keeping missions in former Yugoslavia, for which many Mi-24 and Mi-26 helicopters received a white UN colour scheme which is still visible today. After the start of the fighting in the Eastern part of the Ukraine in 2015 a modernisation programme started to update the obsolete Mi-8T to the modern and capable Mi-8MSB-V by local company Motor Sich. This amongst others includes improved engines, addition of weapon pylons and self-defence measures. More recently, just like the air force and navy, the army received the Bayraktar TB2 drones. They are operational since 2021, however it is not known yet which unit flies them.

After the outbreak of hostilities in the Donbas region in 2014, most active helicopters got two white stripes painted on the tail boom to distinguish them from



Backbone of air defence is the MiG-29 'Fulcrum'



Flightline with MiG-29s



MiG-29 being prepared for a mission



MiG-29 'Fulcrum' in the new digital colour scheme

their Russian counterparts, such as the famous 'D-day invasion stripes' which allied aircraft used in 1944. Many also lost their 'painted on serial' which was replaced by a serial on a small piece of paper behind a window. This is to make it more difficult for the Russians to figure out the number of active helicopters.

The flying component of the army consists of four brigades. The 11 OBrAA (Independent Army Aviation Brigade) is based at Cherson in the South of the Ukraine. This regiment also has two squadrons and both operate all different versions of the Mi-8 'Hip', Mi-9 'Hip' and Mi-24 'Hind'. Based at Brody is 16 OBrAA with the same structure and helicopter types as Cherson. The 7 OBrAA at Novyi



Giant Mi-26 in storage



Duo of MiG-29s take off for an evening mission



Upgraded Mi-8MSB-V with hovering Mi-24 in the background

Kalyniv, near the Polish border not only has two squadrons operating all different versions of the Mi-8 'Hip', Mi-9 'Hip' and Mi-24 'Hind' but also houses half a dozen Mi-26 'Halo' helicopter. However, these are believed to be withdrawn from use. Finally, there is the newest unit, 18 OBrAA at Poltava. This regiment consists of one squadron with Mi-2 'Hoplite' helicopters and another one with the Mi-8 'Hip', both mostly of the modernised MSB combat type. This airbase is located in the North-Eastern part of the Ukraine, relatively close to the troubled regions of Donetsk and Luhansk. Therefore it has been on high alert already for almost a decade, since the separatists started their fight for independence.

State Border Guard Service of the Ukraine (Derzhavna Prykordonna Sluzhba Ukrayiny)

Next to the three regular armed services the Ukraine has a separate Border Guard. Although normally a separate unit, during wartime they fall under the command of the Armed Forces. Their main task obviously is border control, including reconnaissance and transport. Next to the in these regions common Antonov An-24 'Coke', An-26 'Curl' and An-72/An-74 'Coaler' aircraft and Mil Mi-8 'Hip' helicopters the Border Guards acquired some Western built Diamond Da.40 and Da.42 Guardian aircraft. These aircraft had been used by a Ukrainian flying school before, but were sold to the Border Guards by around 2010. Also the first Airbus H-125 helicopters of an order of 24 started arriving in 2020.

When the conflict started, about a dozen had been delivered.

The Border Guard used to have an airbase in the Crimea, but that was obviously deserted after the Russian annexation in 2014. They currently operate from Kyiv-Zhuliany, Kharkiv, Odessa and Uzhhorod.

National Guard of Ukraine (Nacionalna Hvardiya Ukrayiny)

Dissolved in 2000, the National Guard was reformed again directly after the Russian invasion of the Crimea in 2014. Its main tasks are maintaining public order and guarding sensitive locations such as nuclear power plants. Next to this they are also tasked with counterinsurgency against so-called Fifth Columns and infiltrators. As such they are actively involved in the current conflict.

Although mainly consisting of ground units, National Guard operates some aircraft also. A single brand new Antonov An-70 and two An-72 'Coaler' are the large transport aircraft, while also a few An-26 'Curl' are used. Like all military services, the Mil Mi-8 'Hip' is used for tactical transport and a few upgraded Mi-2MSB 'Hoplite' have been delivered recently. Furthermore, at least 5 out of an order of 12 Airbus H-225 helicopters have been delivered as well. The National Guard mainly operates from Kyiv-Zhuliany but has helicopter detachments all over the country if and when needed.

State Emergency Service (Derzhavna Sluzhba z Nadzvychnykh Sytuatsiy)

Although not an active military unit, this government branch is included in this overview as their aircraft and helicopters have been very busy since the current conflict started. Flying people out of the country and probably bringing supplies back are some of their major tasks assigned. The main task of the Emergency Service is civil defence (including disaster prevention, rescue missions, firefighting and such), which is shown in their motto "To prevent. To rescue. To help." Main operating base is Nhyzin near Kiev, with small detachments at Kyiv-Zhuliany, Kharkiv and Uzhhorod. Their equipment consists of four Antonov An-32 'Clank' firefighter aircraft, the usual An-26 'Curl' and Mi-8T 'Hip' plus more modern Western built Eurocopter EC.145 (two) and Airbus H-225 (nine) helicopters.

Current conflict and future

During the conflict, many transport aircraft and helicopters have been flying to neighbouring countries and back, transporting people out of the country and supplies back to the Ukraine. The fighter aircraft are doing their job as well, defending their airspace against hostile aircraft and supporting their ground troops. In the run up to the actual outbreak of the conflict, Turkey delivered multiple armed Bayraktar TB2 drones. Actually two Turkish A.400 transport aircraft got stuck at Kyiv-Borispol airport on the day of the Russian entered the Ukraine and are still there over a month later. Furthermore, the European Union intended to deliver additional fighter aircraft of types that are already in use in the Ukraine (MiG-29 and Su-25). This plan was quickly abolished as the countries that were supposed to deliver them (Bulgaria, Poland and Slovakia) couldn't do so for several reasons. More recently, Poland offered their fleet of 28 active MiG-29s to the



Mi-24 with its deadly cannon and eagle eyes



One of the navy An-26 with bomb racks



Ka-29 in flyable condition but without paperwork

USA 'at their disposal' with the intention of the Americans delivering them to the Ukraine. However, the recent updates of this development are still pending. Instead the transfer of 16 Mi-17 'Hip' helicopters has been promised, coming from Afghan stocks. Some of these helicopters were already in the Ukraine for maintenance when the Taliban took over control in Afghanistan, the rest was flown out of Afghanistan before the Taliban could catch them.

Almost every airbase of the Ukrainian forces has been under heavy attack during the recent conflict with the amount of damage to infrastructure and aircraft currently unclear. Furthermore, also many aircraft and helicopters have been lost while fighting the Russians and it is still much too early to make up the balance. However, apart from the loss of equipment, the loss of lives is obviously a lot worse. One of these is well known former Su-27 Flanker display pilot Col. Oksanenko, who displayed his flying skills at airshows all over Europe. He retired in 2018, but voluntarily returned to active duty after the conflict started to defend his country. He was killed in action only days after. His attitude is an example of the fighting spirit of the Ukrainian people. 🇺🇦

All text and photos: Patrick Dirksen and Frank Mink of Tristar Aviation



Line up of Da.42, Mi-8 and An-26



Flightline at Nhyzin, main base of the Emergency Services