INTRODUCTION

Every day more and more difficult to meet a person does not experience the beauty of flight. Aircraft carrying millions of passengers and tons of emergency supplies. High in the sky sometimes we see a subtle silver triangle, which yields white on blue huge loop - it keeps watch guard our sky - fighter-interceptor. Is booming aviation. For a generation aircraft turned from awkward "flying shelving units" in giant airships, at enormous speeds furrowing the sky. The achievements of our aircraft did not arise out of nowhere. In domestic designers, scientists and pilots rich tradition and glorious history. Even at the dawn of aviation in Russia have been created very sophisticated at that time, heavy aircraft.

It should be noted that the Soviet aircraft designers have made the World Cup in our country in the development of transport aircraft. And a special role in building aircraft for the transport of military equipment and civilian cargo played OKB, led by Antonov. In this work we consider the main person Antonov Design Bureau, namely, directly illuminate the achievements of Oleg Antonov.

1 Aircraft designer O.K. Antonov

1.1 Family Oleg Konstantinovich Antonov

Oleg Antonov was born on February 7th, 1906 in Moscow Province, into a noble family of Anna Efim and Konstantin Antonov. It is a man, whose name remains with us here already more than two decades passing subsequent to his death. Years not in forces to raze his unusually bright and attractive character from the memory. "Prominent aviation designer", "eccentric
"leaders", "bright personality", "man from a capital letter", "artist", "writer", "sportsman" is not simply enumeration of separate parties of personality of Oleg Konstantinovich, it is epithets that strike us the variety and in totality set the rarest pattern to the exceptionally saturated life. A prominent surgeon Nikolay Mikhajlovich Amosov talked: "Oleg Konstantinovich was many-sided, in it thorough knowledge of technique interlaced with an art".

However the major side of life of Antonov was always remained by an aviation. It created 52 types of gliders and 22 types of airplanes, including the greatest and lifting in the world, gave many forces to development of ten of other aircrafts, founded original school of constructing, brought up the collective of deserving continuers of the business. Created by Oleg Konstantinovich designer bureau, suffering structural changes, consistently named a "mailbox", Kyiv mechanical plant, Aviation scientific and technical complex, and, finally, by the State enterprise "ANTONOV" unchanging contacted with the name of the founder, remaining in everyday speech of millions of people simply "DESIGNER BUREAU of Antonov", because the self name of this man forever went down in history aviation and became symbolic.

In 1912, Anton's family moved to Saratov, on the Volga. There little Oleg from the stories of cousin first heard about airplanes. The parents did not support the children's bent for to flight. His father worked as a civil engineer and spoke to his son future-electrical engineer, his mother believed that man has nothing to do in the sky. Only my grandmother supported the children's dreams. Little Oleg first heard about airplanes from the stories of cousin. Oleg cut out from newspapers and magazines all information about it, making an original reference book. Together with coevals Oleg created "Club of aviation lovers", produced the handwritten aviation magazine. The passion for flight pulled the obsessed guys on the military air field, where they met with the construction of airplanes, studying their wreckages on the outskirts of the flying field, and to the book market in search of casual books on an aviation.

1.2 The beginning of the way

The way many aircraft designers begins to increase gliders. So it was with Oleg Antonov.

In the early twenties "pioneer" corkscrew pilot K.K. Arseulov organized society "soaring flight". In this group it was held a competition to design a light aircraft. The competition involved and Oleg Antonov, who, in his own words, of course, did not know at the time of the laws of aerodynamics and calculations, but nevertheless, completed the project his first aircraft. The plane was pictured a cross-sectional view of the front also leads in prospect. To get a better impression, the author of the project, good writing, carefully painted each kind of watercolor. The aircraft was conceived with the engine capacity of 25 liters with, and reminiscent of the "Bee" AN-14, subsequently created in the design office O.K. Antonov. The project was
approved, and even published in the journal "Change". In those years the craze huge amount of aviation gliders were built by people of different professions and specialties, and their creators are mostly guided not by calculations for strength and control, and a sense of measure and proportion.

In 1923 in Saratov, where the time went Antonov, it was decided to organize a branch of the Moscow company "soaring flight" with a circle and glider design bureau. He became head of Oleg Antonov. As the first works he offered comrades in the mug new project of his glider. Planer Decided to build and named it OKA-1 "Pigeon". Construction of the "Blue" was a matter for those times quite complex. In addition to scarce plywood and thick fabric impregnated with a varnish-emalitom, we use various auxiliary materials, including even the following seats on bentwood chairs - chassis.

In the summer of 1924 the glider was built and circle members decided to show it to the All-Union glider competitions in the Crimea. But when you try to make the glider out of the room, where it is being constructed, I suddenly found that the glider does not pass through the door. Missing width of the doors had to overcome the resilience of parts of the airframe. Finally, the "blue" have been loaded on the railway platform and, together with the designer for a week moved to Feodosia. In Crimea it revealed that the glider looks worse than its competitors, and there were 47. "Debugging" produced on the spot the competition, while the used parts left over from the gliders that crashed. All these efforts in building and "fine-tuning" to succeed, and a glider was made the first flight.

In connection with these competitions Gliding would like to make a digression, however, also associated with Antonov. A lot of different pilots, particularly test pilots, have met for their many years of service to this person. One of them – D.A. Kochic. Many air show in Tushino he was a commentator and, one might say, the soul of the event, storyteller and humorist, humorous remarks after which everything becomes clear: both on the plane and its pilot, and the future of aviation. This cheerful and cheerful person had a direct relationship to the birth of aviation, gliding to and even played a role in the admission to the flight activity of S.P. Korolev.

In the early twenties at the Air Force Academy N.E. Zhukovsky's group was organized to train glider pilots on the plane Y-1 (the domestic version of the plane "Avro" English design). The plane was very old, and it was not allowed to perform aerobatics, but it was not necessarily for beginners glider. Necessarily considered more. Like most cars of the time, for the U-1 was characterized by exceptionally oily bottom of the fuselage center section and a mixture of waste castor oil that lubricates the engine parts Rotary and non-combustible gas. It is the responsibility of students was to wash the greasy dirt, which, of course, it was unpleasant task.
In the same period in the workshops of the academy was collected constructed S.P. Korolev and S. Lyushin glider. Witnesses say that at the tail of the glider was perched young Oleg Antonov. His duties were to hold the tail of the glider when pulling the damper, as there was behind a metal corkscrew, to which was attached a cable holding the glider. Once the appropriate command wire fell and slipped out of the tail ring, he released the glider. But the start, trying to keep a corkscrew, apparently a loose, Antonov fell with him, and the glider meanwhile slipped up and gained altitude. To the surprise of those present, under the tail of the glider rocking caught in a rope corkscrew. This circumstance lead unfortunate consequences, because at the time of landing on impact corkscrew could touch any part of the glider, especially feathers, and break it. However, a four-hour flight ended safely: corkscrew landing only slightly damaged the left elevator.

In the future, the young designer O.K. Antonova suffered a setback in the construction of a training glider "Oka-P." Planer, the first test pass near Saratov, first took off, then quickly landed after takeoff. Later it turned out that covered quite a rare cloth, he had a port through which the air without creating the necessary lift. As recalled Oleg Antonov, the glider began to fly only after lubrication fabric on the wings of paste, then increased lifting force, to reduce the thickness of the boundary layer, whose influence had taken into account in the establishment of more sophisticated aircraft and glider flew normally.

Continuing to work on the creation of gliders already in Leningrad, enthusiasts have built a record glider "The city of Lenin." In the thirties, in the construction of gliders began to use birch plywood covered with transparent dope and paint. The first flight of a glider at a record fulfilled one of the pioneers of Russian Soviet Gliding K.K. Artseulov. People of the older generation, he was known as an excellent pilot, first performed in our country by plane deliberate corkscrew. In one of the flights the weather is not conducive to the establishment of records, and the glider, being pressed by the wind to the rocks and fell into the waves of the sea, and the pilot off his leather jacket and boots, he survived on the ledge of one of the rocks, where he was shot rescue boat. At the same glider rally in 1930 became acquainted O.K. Antonova with S.V. Ilyushin, who had graduated from the Air Force Academy, was not only a designer of gliders, but also the chairman of the technical committee. The committee gave a start in life glider, expect the flight to the competition. It S.V. Ilyushin and "made good" glider "City of Lenin," to make observations about sharks and dragon face, painted in the cab fairings Leningrad gliders. Apparently, he liked on this plane crutch that was removed during the flight completely and belonged to the flowing contours of the tail section beams basic airframe, which, however, according to Oleg K., did not find approval from Korolev, who, perhaps, at that time already pondered his future installation on the airframe is not cleaned for a crutch, and liquid jet engine.
1.3 Antonov Design Bureau

In 1930, O.K. Antonov graduated from the aviation department of the Leningrad Polytechnic Institute, but gliding passion never left him for a few years. For a long time he worked as the chief designer of glider factory. In 1938 the plant was closed, and Oleg Antonov for two years he worked in the design office, A.S. Yakovlev, where he was commissioned to design a sanitary aircraft short takeoff. The aircraft has successfully passed the state tests, but launch it into mass production prevented the war. Oleg K. requested to establish the production of landing gliders that were used during the war to provide the guerrilla weapons, drugs, food.

During World War II led O.K. Antonov team designed and built a special gliders for the army-freight, transport and landing. In particular, 1942 has been tested glider to transport light tank T-60. In 1943 Oleg Antonov returned to OKB A.S. Yakovlev as his first deputy. At this time, the Design Bureau developed projects fighters.

After the war, headed by Oleg K. Experimental Design Bureau, which began to engage in the creation of civil aircraft. Machine An-2 - one of the first independent work of Oleg Konstantinovich. With the ability to take off and land on small areas of ground that is used as a passenger aircraft (10-12 seats), agriculture, health, connected to forest fires and conducting exploration for teaching and training of parachutists. No, probably nowhere in the world a common agricultural aircraft than the An-2. It is produced commercially, not only in our country but also in the Polish People's Republic. Built more than 10,000 cars of this brand. An-2 serviced the huge number of passengers of the Soviet Union on the local lines.

In connection with the launch of a series of aircraft to mind the launch of a small series plant in Kiev, where in 1953 translated the Antonov Design Bureau. It was a modest factory and even more modest design bureau. O.K. Antonov sought to unite in a team of people keen on his profession. He believed that the current design bureau regardless of the kind of activities it should be replenished mainly young people, and not just engineers and enthusiasts who, according to Oleg K., can "hack aviation flea." O.K. Antonov rightly believes that, although in the name of the designer's initials appear on the airplane, you should not assume that the machine is only the fruit of his work. Modern aircraft - a set of complex engineering solutions specialists in design, strength and aerodynamics, propulsion, control and various equipment, especially aircraft, special purpose - landing or transport, which enter complex systems that allow to carry and use parachutes to drop various military equipment.

In the early fifties design bureau O.K. Antonov was tasked with creating a military transport aircraft intended for our air speed and a hoisting machines. That plane became established in 1955 by the An-8 - a fundamentally new scheme of the plane, with a large fuselage (which is typical for this machine EDO) and two turboprop engines. With the
construction of the An-8 has solved a difficult task - to large aircraft landing equipment. When domestic aircraft was already in mass production, such a scheme aircraft was built in France and in Italy. Modern aircraft came out of the scope of experiments, receiving all the rights of citizenship, and the creation of aircraft was a branch of modern industry. Gone are the days when designers up to the first flight were not sure their car will fly or not. If the aircraft is designed, it is required to fly. But what made the specified performance characteristics as the show itself aircraft in service, identify after dozens of flights, and sometimes in the course of the operation. Lapping aircraft gradual, systematic elimination of defects and design flaws require constant attention and great care, especially when an aircraft of this type is fundamentally different from its predecessors aerodynamic configuration or power plant. Much work on the final design was held aircraft design bureau O.K. Antonov in the creation of the An-10 and An-12. The first aircraft - passenger, the second - landing traffic. Under the scheme, the location of wing and propulsion systems were identical and differ only by internal hardware. Units of standardized at 85%, and passenger aircraft could be converted into airborne transport. Airplane An-10 was carrying 85 - 100 passengers, the AN-12 transports up to 20 tons of cargo. Maximum range is 6000 km. The aircraft has a turbo-prop engines and chassis multiwheel special slime that allows the machine to operate in the conditions of unpaved airfields. This circumstance explains the fact that the aircraft AN-12 are widely applied to the field of aerodromes, not only our country, but many countries in the Middle East and Asia.

Aircraft Design Bureau O.K. Antonov An-10 and An-12 had a large number of versions, among them - the plane in polar form with a huge ski gear. However, at the initial stage of series production cars of these brands encountered many difficulties, but, as rightly said Oleg Antonov, in the near future the design and technology of airplanes will be simplified and manufacturing of aircraft on the assembly line will increase their quality and reliability, the more that science is the construction of aircraft now it has such extensive knowledge and such a great experience that it has on the shoulder to make aviation the safest mode of transport.

Continuous increase reliability while reducing the weight of the aircraft to increase its carrying capacity - the central problem in the design office, headed by O.K. Antonov. It decides she does not easy. Developing initiative A.N. Tupolev, who decided at the time to feel the strength of the aircraft not in parts, as a whole, O.K. Antonov set up a laboratory in which the aircraft is exposed to tens of thousands loads reproducing workloads experienced by its construction in the period from takeoff to landing. In these tests, large external forces on all the parts of the aircraft by a complex system of levers and cables also create internal pressure and vibration. Sophisticated test passes landing gear that retracts and discharged thousands of times, being subjected to loads exceeding those which occur when landing on the airstrip. Preliminary
tests have exposed not only the aircraft, and on the power unit, which is tested in a variety of conditions, sometimes more difficult than in normal flight.

Whatever may have been comfortable liner, air travel - yet maloprivychnoe state for human beings. Therefore, designers, artists seek to create such conditions in the plane, the passengers during the flight weary as little as possible. The Design Bureau, headed by O.K. Antonov, in the, development of passenger aircraft much attention is paid to provide the most convenience for passengers, and this is achieved by compliance with aesthetic requirements and minimum cost of materials and resources. Not by chance, Oleg Konstantinovich often recalls the saying that existed in ancient Rome: "He failed to do so nice and made rich." The aircraft appeared graceful covered with blue, reddish, greenish light fabrics and plastic chairs in the cabin was spacious and bright. All this, as is known, has a beneficial impact on passengers.

Must say that respect for the constructive and aesthetic began to be felt in the equipment working cabinet OK Antonov. In it all thought out, it is convenient to work with, a lot of new elegant and reliable instruments and devices that meet the requirements of the scientific organization of labor.

And Oleg K. passion for sports, too, perhaps reflecting the desire for harmony in everything. He believes that the real physical culture - is a reasonable relationship to the body - the reservoir of our mind. Hot tennis fan, Oleg Antonov participated in a match of Tennis Veterans Kiev and Dneprodzerzhinsk in 1973 and was the winner of the competition among athletes older capital of Ukraine. It is true his opinion that the role of physical labor in our lives more and more reduced role of mental work. Sport and physical education should and can smooth the rapidly growing imbalance.

1.4 Aircrafts by Oleg Konstantinovich Antonov

Since 1923, Oleg actively worked in "Society of friends of Air force", creating the gliders of own construction, in particular, educational vehicle under the name "Pigeon", for the successful construction of that was the recipient of an award a deed. Irrepressible creative nature, his tenacious memory, which kept the design of almost all well-known by the time the aircraft allowed to create a young Antonov, training gliders OKA-3, "Standard-1", "Standard-2" OKA-7 OKA-8 and the first record Glider "The city of Lenin."

In the late 1930s, the chief designer Yakovlev invited Antonov Design Bureau and its offered him a job lead engineer on training aircraft. But the Great Patriotic War. Antonov got a government job to organize the production multiplace amphibious transport glider A-7, developed them in 1940. In October, the plant was evacuated to Tyumen in Siberia, where it was made more than 500 transport gliders. In the same period Antonov creates a "winged tank" - the original glider for transporting light tank. Piloted by S.Anohinym he flew in tow for the heavy
bomber TB-3 designs A.N. Tupolev. Unfortunately, the great loss TB-3 in the fighting led to that haul "winged tank" soon became nothing, and had to leave the tempting idea.

Many forces gave Oleg K. improving fighter "Yak" - one of the most popular aircraft of World War II.

O.K. Antonov was appointed chief designer and entrusted him with the creation of an agricultural aircraft CX-1, now known worldwide as the An-2.

Three years passed in intense work on the organization of the team and the implementation of the An-2 production. At the same time created and modifications for different applications. This aircraft became the world's only aircraft, which was in serial production for more than 50 years. He gained fame extremely reliable machine. During the years of exploitation of it carried hundreds of millions of passengers and millions tons of cargo processed more than a billion hectares of fields and forests. He visited almost all corners of the globe. For the creation of the An-2 Antonov and his colleagues awarded the State Prize of the USSR.

At the end of 1953 Design Bureau was commissioned to create a transport aircraft with two turboprop engines. The plane was designed and built within two years. In 1958 the aircraft under the designation AN-8 was put into production at the Tashkent aviation plant.

Development of An-10 and An-12 began in 1955 after a visit to the design bureau Soviet leader Nikita Khrushchev. During the conversation with him Antonov proposed to create a single plane, but in two versions: passenger and cargo. The concept was approved, and the team has begun to address this challenge.

After creating the An-10 and An-12 Antonov Design Bureau firmly taken place among the country's leading aircraft companies. Created its own "Antonovskaya" school of engineering, formed a new generation of talented management teams, develop industry and housing construction, to solve social and everyday matters.

In 1962 Antonov became of General Designer. Earlier, in 1960, he successfully defended his thesis, and the Scientific Council of the Moscow Aviation Institute awarded him the title of Doctor of Technical Sciences. In the same year he was elected a corresponding member of the Academy of Sciences of Ukraine.

Oleg Antonov with the same emphasis applies to large and small works were carried out under his leadership: all creative tasks for him were equally important. At the same time with the airplanes, he created a series of all-metal gliders A-11, A-13, A-13M glider, a record A-15. For the creation of gliders Antonov received a special award of the International Aeronautical Federation - "Diploma Tissandier Fields."

Antonov always understood that in the vast expanses of the Soviet Union there is a great need for a small plane, which does not need the ground. Thus arose the SLE - «aircraft short take
off» (the term is now widely used in the world). Small car, later called the "Bee" in the course of successive revisions of the four-seater has become a seven-seater. The birth of "Bee" and its subsequent modifications, to the maximum extent to stand firm as a Designer of Antonov and his determination to achieve the goal.

Another brainchild of the team, who led the Antonov AN-22 has become "Antey", which marked a new step in the aircraft - it has become the world's first wide-body aircraft. For its size it surpassed all that by the time it was created in the world of aviation, and demanded that the decision of a number of design and technological issues, as well as a large amount of experimental work.

The first flights "Anthea" confirmed that the aircraft made a new step forward. The aircraft proved it by bringing in the Far North bulky loads.

A characteristic feature of Oleg K. were defending their point of view on the feasibility of establishing a particular aircraft. As a rule, his position was based on a thorough knowledge of the situation and its comprehensive analysis.

Under the leadership of Oleg K. it was solved and extremely complex task of creating a long-range heavy transport aircraft An-124 "Ruslan". To this end, general designer went on a very bold for its time solutions. "Ruslan" has turned out exceptionally comfortable aircraft. It found 30 records, but only at the end of 2005 on account of the design bureau of the world to achieve 483, of which 378 are not beaten yet."Ruslan" was the last aircraft, created under the direct leadership of Antonov. After his death, the general ideas embodied in the life of his followers have.

Oleg Antonov was a figure, it does not fit the ordinary understanding of the major leaders of the Soviet period. He was brave and determined man. I speak freely on any topic. The basis of creative activity Antonov component of its multi-faceted engineering knowledge. He knew almost all the major advances in technology and, of course, all about aviation. His amazing memory retained all the information about the aircraft past and present. Value to ask him about something like that, and you've heard a fascinating and detailed account of the planes, past events, forgotten sensations.

Everyone has seen the Antonov restrained, balanced. He had absolute authority among subordinates. "The team is not created orders, although they are necessary, - Oleg Antonov was fond of saying. - Not only created the collection and rearrangement of the people. The team brings together not the building in which it operates. The main thing, without which there can be collective - is the unity of purpose ... Creating a friendly, working-group - is a special work, work of a higher order. " 
Antonov paid much attention to amateur designers, inventors. He knew these restless people, helping them as far as possible. Antonov said: "Amateur - a person who will never allow the marriage, a person who works creatively with love."

Oleg Konstantinovich died on the 4th April in 1984.

- Internet resources:

1. http://ruskline.ru/monitoring_smi/2013/02/9/aviakonstruktor_antonov/ - Russian folk line
7. http://m.odnarodyna.org/node/11980 - Information and Analytics One Homeland