

Yuri gagarin term paper

[Engineering](#), [Aviation](#)



First cosmonaut of the planet was born March 9, 1934 in Gzhatsk (now Gagarin), Smolensk region in farmer's family. " The family in which I was born - he wrote later Yuri - very ordinary; it is no different from millions of working families of our country. "

The first years of his life spent in the countryside Yuri Klushino, where his parents lived father - Alexei Ivanovich, and mother Anna Timofeevna.

In May 1949 he graduated from the sixth grade Gzhatsk junior high school, and on 30 September of the same year he entered the Lubertsy vocational school № 10. In December 1949, Ukhtomsky city Komsomol committee took Yuri Gagarin Komsomol members.

Along with his studies in school, enrolled in night school Liuberetskii young workers, seventh grade and graduated in May 1951. A month later graduated from vocational school majoring molder - caster. His work profession Yuri proud life.

After graduating from college with a degree and, Gagarin decides to continue his studies and in August 1951 he became a student of the Saratov Industrial Technical School.

Years of study flew unnoticed and were pressed to the limit of various occupations. Except study and work practices, time consuming Komsomol work, sport. It was in those years, Gagarin became interested in aviation and October 25, 1954 first came to Saratov Flying Club.

Imperceptibly flown two years in the walls of the school, filled with flying, combat training and short hours of rest. And October 25, 1957 School completed.

After two days in the life of Gagarin was another significant event - he married Valentina Goriacheva.

In late 1957, Gagarin arrived at their destination - Fighter Aviation Regiment of the Northern Fleet. Flowed army weekdays flights under polar day and night combat and political training. Gagarin loved to fly, fly with pleasure and probably, would have continued for many years, if not the beginning of the young fighter pilots set for retraining for new equipment. At that time nobody talked openly about flying into space, so spaceships called " new technology."

December 9, 1959 Gagarin wrote a letter asking him to enroll in the group of candidates for the astronauts. March 3, 1960 order of the Chief of Air Force KA Vershinin enrolled in a group of candidates for the astronauts, and on March 11 began training.

There were 20 young pilots, who were preparing for the first flight into space. Gagarin was one of them. When preparations began, no one could even guess which one of them will open the way to the stars.

But for this to happen, Gagarin and his comrades had to go the way of a year filled with endless workouts at Surdo and hyperbaric chambers, centrifuges, other simulators. The experiment followed the experiment, parachute flight alternated fighters on training aircraft, flying laboratory, which was converted Tu-104.

But here it is all over and the day of April 12, 1961. Dedicated only knew that was going to happen in this ordinary spring day. Even fewer people know who is destined to transform the entire history of mankind and promptly burst into expectations and thoughts of mankind forever be remembered as the first man who overcame gravity.

April 12, 1961 at 9: 00 7 minutes Moscow time from the Baikonur launch pad spaceship " Vostok" with the pilot - cosmonaut Yuri Gagarin on board. During his flight Yuri Gagarin was awarded the title Hero of the Soviet Union and " Cosmonaut ", was awarded the Order of Lenin.

Two days later, Moscow welcomed the hero of space. On Red Square was crowded meeting on the implementation of the world's first space flight. Thousands of people wanted to see for Gagarin.

In late April, Yuri Gagarin went on his first trip abroad. " Peace Mission ", sometimes referred to as the first cosmonaut trip across countries and continents, lasted two years. Gagarin visited dozens of countries, met thousands of people. Meet with him was an honor kings and presidents, politicians and scientists, artists and musicians.

April 12, 1961 happened that dreamed about the best human minds. People break the shackles of the earth's gravity and flew into space.

That man was Yuri Gagarin - Soviet citizen. How to prepare this mission?

After launching the world's first artificial satellite was clear to everyone that manned space flight - it's not -so-distant future. And we, in the U. S. and start working on the creation of manned spacecraft.

In the USSR, this work led by Sergei Korolev. By the middle of 1958 traced the general scheme of the spacecraft for flight astronaut: ship shall consist of two compartments, one of them - the lander astronaut to return to Earth, the second device- called aggregate, it housed offices of ship propulsion and braking (TDU). Form lander decided to choose a sphere, it greatly simplifies the necessary calculations that return capsule to Earth. By the spring of

1960 the first flight model of the ship was ready. Along with the creation of the ship was working off a rocket, since human space flight took rocket more powerful than the one that outputs the first satellite. Estimations showed that the mass of the spacecraft with a man should be somewhere around five tons. A rocket - the famous " seven", or R-7, set the third step, which implements the task. In this case solved one of the biggest challenges at the time - the need for the firing in a vacuum, as the engine of the third stage has been necessary to include in a vacuum.

Series starts, the previous human spaceflight, opened the first flight of the ship - satellite put into orbit May 15, 1960. Excretion and the flight went well. When you try to send a ship to Earth failed the attitude control system and a brake pulse is not reduced, but increased the speed of the ship. It was not very nice, but joked SP Korolev: " Now we have learned to maneuver in space."

The next launch, which took place on July 23, 1960, ended in failure, the initial ascent flight was interrupted due to a failure in the booster. The lander, which was carrying dog Seagull and Fox, separated from the emergency vehicle and collapsed in the fall. On this run while in the press did not report.

August 19, 1960 was successfully launched spacecraft-satellite, he was named second in official reports. On board the ship were in a special booth two dogs - Belka and Strelka. Conventional purebred pooch, pedigree dogs worse transferred to flight training. After a day flight, they returned to Earth. It was a fantastic success. During this flight, were worked out several options orientation systems on board the ship were installed devices for the

assessment of radiation safety and study X-ray radiation. Then for the first time with the instrument observed the development of a solar flare in the spectral regions inaccessible when viewed from the Earth's surface.

Flight next spaceship with dogs Bee and Mushka launched December 1, 1960, failed - returns to Earth lander collapsed down the nonisobaric trajectory.

In December 1960, was another attempt to launch a ship with dogs on board, it happened on December 22. But did not work the third stage of the rocket and lander landed in taiga near Lower Tunguska River. All measures were taken to ensure that this track lander and deliver it to the company. This expedition led Arvid V. Pallo, one of the old companions SP The Queen, who had to withdraw from combat platoon system emergency undermine lander installed on the machine in case of landing reach the evacuation site. The ship was found. Dogs Comet Joke (Zhulkov and Alpha) suffered huge overload while returning to Earth and a forty frost landing site. Different sources nicknames dogs vary a lot, which is associated with the custom of giving more " euphonious " names before launch. Due to the failure of the catapult space traveler stayed in the descent module that saved their lives. On the second day after landing they were rescued.

After this setback was serious work to tighten the acceptance of manufactured objects, intended to launch into space. Were again rechecked all the technical solutions for safe re-entry at all stages of the flight. Made necessary simplification in flight pattern, for example, this recalled Boris Viktorovich Rauschenbach, speaking here in Leningrad. For braking the ship during the descent from orbit orientation of the spacecraft produced by the

sun. This imposes some restrictions on the timing of the launch. To return to the ship was necessary to ensure the Sun is in the right sector of the sky. At the moment of braking impulse that "confronted" the ship from orbit, the angle between the velocity vector of the spacecraft flight and direction of the sun should not exceed 20-30 degrees. It took a few more largest braking impulse, but provides more reliable the correct orientation of the ship at the time of starting the engine. Finally, the orbit of the first flight is calculated such that even non-inclusion of the brake motor, the lander due to the deceleration in the atmosphere for 8-10 days alone returned to Earth.

Were prepared by two credits start, which took place on 9 and 25 March 1961. During these flights was repeated flight program fully manned. Start, single-turn flight, landing. In the armchair astronaut was anthropometric dummy, called him "Ivan", the similarity with the person was full, even put it in the usual suit for some reason. After putting on the suit, on the face of Ivan Ivanovich to start March 25 put a sheet of drawing paper with the word "mock" in order not to frighten those who might accidentally find him before rescuers. To check the voice it was mounted tape, which recorded a song sung by a chorus them. Pyatnitskiy again to in case of failure would not occur and the shadow of a suspicion that the man was killed, not a dummy. Dog Chernushka in flight March 9 placed in a small container, which is where the astronaut during the flight should be a container with food destined for the astronaut during his flight.

On the second run, held on March 25, was invited to "shock" the six astronauts from the first group. Total detachment was selected 20 young pilots. By this time the composition of the "shock" of the group was as

follows: Yuri Gagarin, Gherman Titov, Grigory Nelyubov, Andrian Nikolayev, Pavel Popovich, Valery F. Bykovskii. GG Dislikes and VF Bykovskii replaced originally part of a group Kartasheva Anatoly Stepanovich and Varlamov Valentine retired from her medically. With a light hand Gagarin dog that started March 25, dubbed by an asterisk. Launches were successful.

It was decided - the next flight with a man on board.

At the working meeting of the State Commission decision - the first to leave a flight Yuri Gagarin, will spare GS Titov and GG Dislikes. Before a solemn meeting of the commission head of pilot training astronauts Hero of the Soviet Union Nikolai Kamanin reports Gagarin and Titov decision which will be announced officially tomorrow. After that, a solemn meeting of the State Commission, which was filmed by documentary was shown worldwide parts by increasing the statute of limitations.

April 12, 1961 at 9: 00 07 minutes with a powerful rocket spaceship " Vostok" broke away from the launch pad. It was excitement before the start. During leak test probe showed that the hatch through which the astronaut sat in the ship, allegedly closed dense. In the acute shortage of time by a taste panel by unscrewing nuts with 30 locks, locking the door, straightened special electrical contact clamp lid signaling its normal closing. Worked so quickly that only exchanged views with Gagarin, the cover back into place and after leak testing confirmed their readiness to launch.

When you run the ship, as opposed to accepted practices, the staff were not evacuated from the second deck on the eighteenth kilometer. SP Korolev went to this security breach, apparently in order to psychologically support astronaut demonstration of confidence in the successful outcome of the run.

Worried whether YA Gagarin? All noted his great, smooth mood the day of launch. But here's what showed heart rate measurement at different stages of preparation, launch and flight, to a certain extent related to the emotional state of the astronaut. Four hours before the start - the pulse of 65 beats per minute, five minutes before the start - 108 during ascent - at the end of the first minute - higher than 150 by the end of the ejection phase - again about 108. At the moment of braking and propulsion at the beginning reentry - 112. During flight in weightlessness heart rate was 97 beats per minute. In the process of removing the first seconds of the flight was a small glitch in a temporary connection that made all jittery. Communication was restored. Final clearance rate was slightly higher than the calculated, so Svyatoslav S. Lavrov, who was part of a special support group, have, by the way, in the office of SP Queen, immediately proceeded to the calculations that would assess the impact of this error. Calculations have shown that without the inclusion retropropulsion return ship held at the limit of its possibilities for tenure in orbit. Deorbit burn was issued on time. SFT (retropropulsion) worked 40 seconds before running out of fuel that the costs with regular planting program in which engine shutdown should have taken place on the team integrator (after reaching the set deceleration rate). Next on the program descent at 10 o'clock 25 minutes. 57 seconds had separation instrumentation aggregate compartment from lander, which was an astronaut, however, the separation occurred in only 10 hours. 35 minutes. All this time the device was observed rotation speeds of up to 30 degrees per second. After separation of the compartments when entering the Earth's atmosphere orientation lander stabilized in the calculated position. In this

astronaut retained his composure, although he knew that after the separation of TDU was supposed to happen after 10-12 seconds. We astronaut had a few channels of communication with Earth, which it is actively used. Two minutes later, the rotation YA Gagarin transmits to Earth on the shortwave communication channel that TDU worked fine, but on the phone said that separation has occurred, said the key "VN" - everything is fine.

Launching a ship went ballistic. Overload reached 10 units, the lander was "centered" so that overload acted in the direction of "chest-back." At an altitude of seven kilometers cosmonaut ejected from the ship and landed on his parachute.

Landing because of untimely termination of the TDU and delay separation compartments occurred in the area of Saratov, which in its own way, turned and symbolic. It is here YA Gagarin first flew into the sky on an airplane, it is here that he took parachute training before space flight.

In its report, the State Commission YA Gagarin reported everything very carefully. For example, that during the descent on the main parachute opened pack a spare, but its dome and not filled with what looked mounted on a separate tether NAZ (portable emergency). Certain difficulties were encountered when opening the valve breathing in the air. It so happens that this ball valve when dressed astronaut, came under unmask shell - the famous orange jumpsuit. Suspension system everything was so energized that YA Gagarin could not get it six minutes, then undid unmask shell and using a mirror and pulled the rope opened valve normally. Prior to that, he

was in the air Disconnect ORK'a (combined oxygen connector), glass curtain suit already opened while on earth. So ended the flight of Yuri Gagarin.

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