

Pilot Anatoly Kvochur Senior Designer of the Gromov Flight Research Institute Russia

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President Putin and Capt. Anatoly Kvochur Anatoly Kvochur: Perfection is his credo



Foreign mass media dubbed him "Russian flying legend". Russian experts call him "pilot by the grace of God". His real name is Anatoly Kvochur. Several years ago he was in the world's top ten. Now he leads the dozen.

"A pilot by the grace of God, you say? Well, I do not know. We are all here by the grace of God", said Anatoly Kvochur rather modestly during the interview at his office in the town of Zhukovsky. Kvochur moved into the office not long ago, so the furniture is quite scarce, that is a table, a couple of chairs, and a computer. On the wall, at the most prominent place, there is a portrait of M.M. Gromov.

Currently, A. Kvochur holds a position of Deputy Chief, Flight Research Institute named after M.M. Gromov. Hence two interrelated spheres to apply his skills. They are flight testing and scientific activities. Moreover, he is head of Flight Research and Aerobatics center (FRAC) the name and concept of which incorporate the words "pilot" and "scientist".

The center was set up in 1992. Its aim was to perform professional aerobatics flying the Sukhoi Su-27 and Su-30 aircraft both in group and separately, and to carry out research into the following fields:

- supermaneuverability
- ergonomics
- avionics
- air refueling
- Long range non-stop flights

+modern computerized flight preparation and AAR (after action review) systems.

Anatoly Kvochur is leader of the group that includes pilots Vladimir Loginovskiy and Alexander Garnayev. The Su-27 No 598, 595, and Su-30 No 597 demonstrators used by the group are equipped with the most sophisticated radio and navigation equipment, satellite navigation included, and they feature air refueling system. Their flight range at a cruise speed of 900-1,000 km/h and at an altitude of 12,000-15,000 m is about 4,000 km. When air



refueled, Kvochur flown Su-27 covered 16,000 km within 24 hours with only three intermediate stops. This unique super long range flight took place in March of 1995 and the plane flew from Moscow via Tashkent and Singapore to Melbourne and back. Moreover, A Kvochur took part in almost every major air show.

Almost every air show hosting nation is eager to invite Kvochur, for his participation guarantees a spectacular aerobatics, with stunts changing each other without pauses at an extremely low altitude. One of the most vivid ones is of course the Cobra, when a plane brakes, hovering in midair with a very big angle of attack, which resembles cobra's stance before it hits. Other figures include the Knife, when the plane moves forward with the 90-deg. turn, and the Bell. Being a test pilot since 1977 and having worked for the Mikoyan design bureau for over 10 years, Kvochur has been performing stunts ever since. He performed the Cobra in the early 1990s as part of the "Dogfight" program. It is worth mentioning here, that at

that time the Su-27, with its superb characteristics, did not exist. Having performed this stunt that early, Kvochur proved its high effectiveness, thus opening a new era of the Russian combat aircraft employment.

Ht performed the Bell when a cadet of an Air Force college. Later he decided to make it more spectacular by avoiding rotation and working with the two engines separately. He also worked out safety rules. Nowadays, a lot of pilots perform the figure at an altitude of 1,000 m, while Kvochur can do it at 600 m.

Kvochur's aerobatics can carry one away. His performance is called "little ballet". Every movement of the aircraft is perfect.

The interview took place several days before the group flew to China take part in the air show. The first display of aerobatics took place in 1996. Dmitry Shulepov, the FRAC Director, says about the impression of the spectators, "When Kvochur, Loginovsky and Garnayev took off, the roads were full of traffic jams with thousands of people looking upwards." The air show was attended by about two million people, which made it one of the world's leading airshows. Both sides were satisfied with the results of Russia's participation. On the one hand, the government of China, the country's tax payers, made sure they are buying aircraft with excellent operational characteristics. On the other hand, three Russian enterprises, namely the Sukhoi design bureau, the Irkutsk-based aircraft production company, and Komsomolsk-on-the-Amur-based plant, received an order. Moreover, a new contract on yet another batch of the Su-27 fighters delivery is being signed now.

The FRAC and Aviasalon branches have prepared a joint exhibition of the Flight Research Institute. Kvochur's center is going to show a satellite radionavigation system that allows to determine the position of two objects, and other interesting things. Apart from everything else, the group's aircraft are flying laboratories. And a demanding person as he is, Kvochur decided to carry out in-flight research into satellite navigation when heading for the air show, over Russia, of course.

Using his own criteria to estimate a test-pilot, it was rather interesting to estimate Kvochur himself. Here is what came out of it.

- Q: Aircraft flown?
- A: Almost all of them.
- Q: Total flying time?
- A: Five thousand.
- Q: Performance quality?

A: Ten night-time landings on the Admiral Kuznetsov aircraft carrier, dozens of pilots trained for the Navy and hundreds of them for the Air Force.

Q: How did you manage to achieve such results?

A: Mostly thanks to the school. To become a test pilot one has to learn a lot. I was lucky to have excellent teachers. All pilots working for the Mikoyan design bureau, and I myself, are students of A.V. Fedotov. We consider him to be a test-flight philosophy developer. The gist of the philosophy is as follows, a pilot should be enthusiastic with regards to the aircraft and his profession; he should devote all his time to it; he should be well-balanced psychologically and morally, that is he should fly a plane not as he likes but as the problem requires; and, finally, he should always be in tip-top shape.



Kvochur is 46 now but is pretty fit for his age. Being an interesting person for the journalists, he, however, often comes across some really untrue articles about himself. At the Singapore air show he learnt that he was a heavy smoker and was not indifferent towards vodka. He smoked only a couple of months after his wife's tragic death in an air crash. So far as alcohol is concerned, he likes good wine. He has a son of 13 and a daughter, who is now married. Unlike most pilots, he is far from being superstitious, although he does not deny having some kind of mystical connection with the aircraft. There were moments in his life, when he felt



that the plane was live. For example, on 8 June, 1989, at Le Bourget, his aircraft suffered an engine failure and Anatoly had to perform ejection. He was close to the plane when it exploded and he thought he saw a living creature dying. Although he was injured, he flew a twin sitter back home. There was another ejection during the training flight in the Crimea. However, in spite of all this, he desires only one thing - to keep on flying. The Sukhoi Su-27 is his favourite. He considers it to be perfection, both in terms of technical and ideological solutions. The Hero of Russia, test pilot Anatoly Kvochur says, "My life-long credo is perfection, and I try to live up to it."

Kvochur Anatoly Hero of Russia Honored Test Pilot of the USSR

Biography Kvochur Anatoly

Born April 16, 1952 in the village Mazurovka Chernevetskogo region Vinnytsia region. Father - **Kvochur** Nikolai Petrovich (1918g.rozhd.), An agronomist, life worked in the fields, the last few years on the collective farm cattle ranch. Mother - **Kvochur** (Grabchenkova) Fedor Markovna (1926g.rozhd.) Worked as head of the rural communications hub. Wife -**Kvochur** (Grigorenko) Valentina Mikhailovna (1953-1995), by profession and vocation of a teacher, died tragically in a car accident. Daughter - **Kvochur** Irina (1978g.rozhd.), A student at the Institute of Foreign Languages named after M. Tereza. Son - **Kvochur** Alexander (1986g.rozhd.).

"Russian flying legend," The pilot of God "- the so-called **Anatoly Kvochur** domestic and foreign experts and the media. 12 years ago, foreign commentators have included it in the symbolic ten best test pilots of the world.

In the formation Masters lifelong enormous role played by the concept of teacher. For **Anatoly** Nikolaevich were established in a small aged father and mother, then my grandfather and godfather, first teacher Nadezhda Petrovna, teachers of mathematics and physics in high school, who also were excellent athletes, which had to participate in various sports,

Maternal grandfather, Mark Grabchenko Klimovich, through its multilateral knowledge, selfdiscipline, amazing hard work and resilience, as well as his son, subsequently cross Anatolia, Grabchenko Athanasius Markovich, Being a teacher by profession and having exceptional personal qualities and teaching skills, had a tremendous influence on the formation of values and character of **Anatoly Kvochur**,

Summer, when the grandchildren gathered at his grandfather, most of the summer holidays was held under their direct supervision, in which boys are given special attention to the full development and Spartan upbringing - to climb the highest tree, cope with the snake, make a model airplane, build a temporary shelter for the night in the woods. It always and in all the emphasis on the development of the children's feelings of patriotism, love of country, the need to defend it.

As a result, childhood **Anatoly** became convinced that people, in principle, can achieve any goal if his motivation, self-discipline, diligence, love for native land. Apparently so, from about the age of 10 it was formed overwhelming desire to become a defender of the homeland at that time it seemed to him largely as a military pilot, and of course, a fighter pilot. Over time, this desire developed into a firm conviction and rigid training program for entry into flight school. At school he was heavily involved in sports, serious about school subjects, especially maths and physics.

After a ten-year **Anatoly Kvochur** easily entered Yeiskoe Higher Military Aviation School named Komarov. Since the beginning of the first flight in a Lear jet at the school revealed that the profession of a pilot - it is not only the ability to fly, it is almost unlimited possibility of self-improvement through knowledge. Therefore, further development of the flight profession and new types of aircraft, in school, and in the subsequent career **Kvochur**, held more

Proactive, which was reflected in the ever needs to know about the world of flying as much as possible, constantly studying various handbooks and special literature, optional, but useful calculation of certain characteristics of the aircraft and specific maneuvers. To a large extent, thanks to his passion, long-term participation in the flight tests of varying degrees of complexity was for **Anatoly Kvochur** relatively simple and safe.

In college **Anatoly Kvochur** lucky. His teacher - instructor pilot Lt. Zasko Ivan Nikolayevich (the first training aircraft L-29), Captain Kim V. Nikitenko, and Lieutenant Kondratiev Valery (the first combat aircraft - a supersonic fighter-bomber Su-7B) - were the real patriots of their cause, good, and what even the best experts in the training regiments School. And after college, when in 1973 Lieutenant **Kvochur** sent to undergo military service in the Soviet Army Group in Germany, he was lucky to meet with these masters of their craft. One of them - the deputy commander of military regiment Leonti N. Grigoryev, was for a young pilot flying a model not only professionalism, but also the courage. Once on the plane Grigorieva Su-7B Bombings load during a training exercise above the municipality stopped the engine. Risking their lives, he took a plane to a safe area and ejected with almost zero height.

In East Germany, AN **Kvochur** for two years served as a fighter-bomber, then commander of the fighter-bombers. In 1975, the division commander, General Vladimir Skaryukin, noting the talent Lieutenant **Kvochur**, wrote him a letter of recommendation for admission to the Test Pilot School. The letter was addressed to the outstanding test pilot, while the chief pilot Mikoyan Design Bureau named after Alexander Vasilyevich Fedotov. Contents of the letter is unknown, but Honored Test Pilot of the USSR, multiple world record holder (still not beaten some records speed and height, set them on the MiG-25). Hero of the Soviet Union Fedotov assisted in the call for exams in school for test pilots of the Ministry of Aviation Industry clearly young for such work, Lieutenant exams passed successfully, but in the process of learning and the distribution of its end AV Fedotov underscored not interested in the fate of his protege. Only in 1981, when due to injuries, resulting from accidents, while three of the leading test pilot of the Mikoyan Design Bureau named, including himself Fedotova, briefly dropped down, Fedotov arranged the order of the Minister of Aviation Industry of the transfer test pilot of Komsomolsk-on-Amur aviation plant Anatoliy **Kvochur** in behalf of the Mikoyan Design Bureau,

For the time the transfer was a rare event. Working as a test pilot in the world famous company MiG was the cherished dream of most young test pilots of the country. In figurative expression M. Komarov, died in a test flight in 1970 and is also a pupil of AV Fedotov: "The probability of a test pilot in the firm Mikoyan approximately equal to the probability of winning a hundred thousand rubles for a tram ticket", We can say that **Kvochur** a winning ticket pulled out ...

Anatoly Kvochur as many other test pilots Mikoyan bureau considers himself a pupil of A. Fedotov. It became for them the philosophy of the developer of flight tests. Before him, the same role in the development of the school played a flight test chief pilot **Kvochur** Grigori Sedov. School Sedova - Fedotov **Anatoly** calls the school a safe and efficient testing. Thanks to this school, many pilots have lived much greater than average years of life and brought substantial benefit to the State

Over the years, a test pilot **Anatoly Kvochur** conducted numerous tests of new aircraft and weapons, including: flight-test aircraft MiG-29 (in 1982 for the first time reached the limit on the strength of aircraft overloading 9 units, . in conjunction with the limit angle of attack and

critical Mach number - on the orders of 9, . 0 +0, . 5 - reach 9, . 45), multiple missile tests of the new generation air-to-air and air-to-surface missile (the first discharges, Start on the security department, engine flameout. The first combat use of these missiles); test overhauled MiG-29 and MiG-31; test deck version of the MiG-29, with the testing systems of the first domestic carrier "Admiral Kuznetsov" (the first landing and the first takeoff from the aircraft carrier at night, preparation of the first deck of pilots to fly the aircraft carrier), Since the mid 80-ies as the lead test pilot, he participated in the drafting of a new generation of fighter (IDF), which first flew in 2000.

In 1991, AN **Kvochur** passes in Flight research Institute (FRI) named Gromov as a test pilot, chief of the laboratory ergonomics. From 1996 to the present time, he - Deputy Head of the Institute for Defense topics. The real work in LII implies the existence of two very unrelated areas of application of the effort: flight-testing and research. In addition, **Kvochur** head created with LII "Flight Research Center, in the title and concept which combines the concept of" pilot "and" scientist "

State Unitary Enterprise Flight Research Center (until 1996 - aerobatic team "test pilots") was founded AN **Kvochur** in 1992, FRI named after MM Gromov for conducting a research program to design booths and government aircraft maneuverability, satellite navigation, . refueling, ultra-long range non-stop flights, superagility, Medicine, as well as to the professional performance of demonstration flights on Su-27, Su-30 and MiG-29 alone and in group.

During this period aerobatic team has implemented a number of demonstration performances of various aviation activities, including such well-known, .as: "Mosaeroshou-92", MAKS-93, 95, 97, 99, "Thailand-93", "Dubai-93", "ILA-94, Farnborough-94, 98, "Australia-95", "Le Bourget-95", Prague - 95, 97, "Singapore - 96, 98, The Jakarta-96, "Zhuhai-96, 98 "(China), "Lima-99, as well as dozens of times participated in aviapokazah in the UK, Switzerland, Belgium, Netherlands, Italy, Austria, Poland and Finland.

Highlights the unique ultra-long flight to Australia and back in March 1995 and over the North Pole along the closed route in July and September 1999. Single Su-27, piloted by the commander of the group AN **Kvochur**, overcame some 15 thousand miles with refueling in the air and only two stops on the way to Australia. In flights to test the satellite radio navigation system (SRNK) in the waters of the Arctic Ocean, passing over the North Pole reached a record distance and flight duration for single fighter (11 h 29 min) Two trans-arctic flights, held in conjunction with the 37-th Air Army, were carried out comprehensive studies of a number of new scientific and technological developments, primarily, satellite radio-navigation system (SRNK), ensuring accurate determination of the mutual co-ordinates and velocities of the two planes, example, refueling tanker aircraft and, or two aircraft groups. This on-board computer software allows the aircraft to bring refills filling a cone with an accuracy of 1-2 meters from a distance of up to 800 kilometers.

Also evaluated six satellite navigation receivers, the new board computers and recorders, the new display on the windshield, as well as color LCD multifunction display JSC "Russian Avionics". Been received valuable medical and physiological data on the status of the pilot, recorded on kardiokassetu.

Anatoly Kvochur has mastered many stunt. Many of them he has perfected the latest generation of aircraft. For example, the execution of such figures as "The Bell" AN **Kvochur** worked on the Mig-29, prepared by the method of security and marked the first time along

with other test pilots behalf of the Mikoyan Design Bureau in the international airshow Farnborough-88 ".

Organizers of any air show to seek the participation in it precisely Anatol **Kvochur**, because he - a guarantee of the spectacular show when aerobatics succeed one another without pause, at extremely low altitude. Famous English expert test pilot John Farley, . Commenting aerobatics **Kvochur**, said: "I would compare him with the performance of classical music, . in particular the "Moonlight Sonata", "to which perception can be trained to a greater or lesser extent, but which like all. In connection with the same personal experience I can say that the pilot was obviously not "struggling" with the plane and a full understanding makes them like a single entity, leading to the perfection of all the motions ".

Now **Anatoly Kvochur** continues to combine a flight and scientific work. This and the development of flight research center, and the development of techniques of single and group aerobatics in modern fighters, and training of pilots and Air Force LII, and direct management of aircraft modernization programs, a forward-looking cabin, mezhobektovoy satellite navigation,

In 1992, the distinguished test pilot **Anatoly Kvochur** awarded the high title of Hero of Russia. He also awarded the Labor Red Banner (1988) and "For Service to the Motherland" III degree.

Physical form **Anatoly Kvochur** enviable. Despite two ejection and a huge flying experience, he still gets a perfect present π-nTn©n¦nT Hero: athletic physique, perfect posture, strong hands. "Until 17 years I tried to do weightlifting, - says **Anatoly** Nikolaevich. - But in a flight school explained that this is not the best for the health of the pilot exercise. Sport, however, did not throw ever. Ten years in karate, but after the second ejection had to leave this matter. Now I love downhill skiing ".

In his spare time, when it is possible not to think about work, **Anatoly** loves to read, especially the works of Ephraim, Lemma, Strugackih. His favorite movies - "The Story of a Real Man," "Seventeen Moments of Spring".

Lives and works in the town of Zhukovsky, Moscow region.