



128

# ORBIT



**12th April 1961 USSR  
Launch Vostok1**



**Yuri Gagarin**



**March 2021**

**ASTRO SPACE STAMP SOCIETY**

## Yuri Gagarin: Human Space Exploration Era Turns 60 *By Umberto Cavallaro\**

The forthcoming 2021 Cosmonautics Day reminds us of the courageous test flight of Yuri Gagarin who 60 years ago opened the human space exploration era, when he circled the Earth for almost one orbit and became the first man to view what no one else had ever seen: the entire Earth as a sphere. According to TASS, "100 mln rubles (\$1.3 mln) will be allocated from the budget of Russia's state space corporation Roscosmos for arranging the event"<sup>1</sup>

On April 12, 1961 news went around the world on the front page of the newspapers: Yuri Alekseyevich Gagarin, the Soviet cosmonaut, was the first to make an orbital voyage around the Earth aboard the Vostok spacecraft. Once again the Soviets had beaten the Americans.

Unlike what had happened with Sputnik some years before, the first human flight in space of the Soviet Yuri Gagarin indeed was for the United States a second deep humiliation, but not a big surprise. As early as May 1960 the USSR had been testing prototypes of Vostok capsules in orbit. In February 1961 Khrushchev had proclaimed that the time to launch the first man in space was close...

Gagarin was awakened with his backup Gherman Titov at 05:30. Breakfast was followed by routine medical check-ups and then the preparation for the flight started. While wearing spacesuits in the dressing room, one of the bystanders semi-jokingly suggested that upon landing in his futuristic outfit Gagarin could be mistaken for the pilot of an American spy plane like the U-2 that had been recently shot down over USSR. The idea was taken seriously and officials made the urgent decision to paint "C C C P (USSR)" on the front of Gagarin's helmet in big red letters, in order to establish his identity.



A number of photos showing Gagarin in his helmet, before and after the letters were



painted, confirm the authenticity of this story. They were then transported to the launch pad. Folklore has it that midway to the destination, the bus made a stop in the middle of the steppe, letting the cosmonaut out to relieve himself on a rear tyre of the transport van, through the suit's urine tube, so establishing a "good luck" ritual for all those who would follow him. Gagarin entered the Vostok 1 spacecraft at 07:10 local time, and the hatch of the spacecraft was closed. But it was soon discovered that



something was not working with the seal, so technicians spent nearly an hour fixing the problem. During this time, Gagarin requested some music to be played over the radio. Chief designer Sergei Korolev was very nervous in the control centre, but Gagarin was described as 'calm': his pulse was recorded at 64 beats per minute.

In 106 minutes<sup>2</sup> the spacecraft completed an almost single orbit of the Earth, reaching the speed of 27.000 km/h, a speed that no human being had ever endured before, and a maximum distance of 327 km from the surface of the Earth. Gagarin could enjoy for the first time the experience of weightlessness and the spectacular view through the small viewport in Vostok. He was also the first to learn that in microgravity any unsecured item swiftly and instinctively migrates to the most inaccessible and inconvenient place.



TASS released its first bulletin while he was still in flight. Public congratulations promptly arrived from Kennedy and Von Braun conceding defeat, while Alan Shepard complained that he had missed the opportunity to beat the Soviets on March 24, muttering over and over again: "We had them by the short hairs, and we gave it away".

Instantly Gagarin "skyrocketed" into history and became an international celebrity and the emblem of the Soviet Space Programme. His bronze bust was unveiled in Moscow. Posters with his portrait were distributed to the cheering

\* Umberto Cavallaro is the prolific editor of the print/online astrophilatelic journal *AdAstra*, a writer published internationally and well known across Europe as an expert philatelist.



crowds. A new Soviet postage stamp was issued. The Soviet propaganda machine made him into a demi-god. Soon Soviet daily TV programmes began a long tradition of starting off with the announcement: "Poyekahli!"

("Let's go!" the words spoken by Yuri Gagarin at launch). In honour of his extraordinary enterprise the date of April 12 became a public holiday to celebrate Cosmonauts Day.

But it had been hard for Gagarin to get there. The final specifications for cosmonauts were approved in June 1959. In the end the Air Force served as a pool for qualified individuals, even if the spacecraft would have a "man on board" rather than a pilot flying. Actually the decision had more to do with politics and conceptions of heroism, as fighter pilots were regarded, after World War II, as the most heroic of the Soviet heroes. And among the factors that affected the decision to choose pilots was the news that NASA had selected as its first astronauts individuals with aviation backgrounds in the American armed forces. Actually as the space capsule was totally automated, no "piloting" was required and nothing would depend on the cosmonaut's decision, partly because the doctors were concerned about the psychophysical integrity of the cosmonaut in weightlessness, and partly because the KGB wanted to prevent the cosmonaut from being tempted to land outside the Soviet territory.

The selection had started with 400 candidates summoned on October 3, 1959 to be visited by the mysterious "Commission for Theme 6" (the sake of paranoid secrecy at the time reached this point), at the hospital of the Scientific Research Centre of Aviation in Moscow. A series of rigorous medical tests started. Besides general health and physical preparation, the commission also tested professional suitability, moral and ethical characteristics, memory, mental agility, resourcefulness in stressful situations and power of observation. Although the pilots were not told they might be flying into space, one of the physicians in charge of the selection process perceived that some pilots had figured this out, but all the candidates were forbidden to disclaim this top-secret project.

By February 25, 1960 the list of candidates had been reduced to 20 who formed the first group of Soviet cosmonauts. Only one of them had flown on the newest Soviet jet at the time, the MIG-19; the rest had flown the older MIG-15 or MIG-17. The most experienced pilot was the 34 years old Captain Pavel Belyayev who had logged 900 hours flight time in both piston and jet aircraft. In contrast, Gagarin had a log of only 230 hours. Colonel Anatoliy Karpov – the newly appointed chief of the future Cosmonauts Training Centre – on January 25, 1961 selected the six most promising candidates, in his view, for top-priority training: Captains Pavel Popovich and Andrian Nikolayev; Senior Lieutenants Yury Gagarin, German Titov, Valentin Varlamov, and Anatoliy Kartashev. The six were given priority during training sessions and access to the



The "Sochi Six Cosmonauts" in the picture, taken at the Sochi Black Sea resort, in May 1961, a few weeks after Yuri Gagarin's historic flight. The six vanguard cosmonauts officially involved in the Vostok programme are the top of the first class of twenty space pioneers, the best and the boldest of their nation, the ones destined to ride the first manned missions. In the picture on the left, sitting in front from left to right: Andriyan Nikolayev, Yuri Gagarin, chief designer Sergei Korolev, Yevgeny Karpov (Director of the Cosmonaut Training Center) and Nikolai Nikitin (parachute jumping instructor). Standing in the second row, from left to right: Pavel Popovich, Grigory Nelyubov, German Titov, and Valery Bykovsky. In the picture below the image of Nelyubov has been artfully airbrushed out after he was discharged from the Cosmonaut Corps for disciplinary reasons. Many versions of this doctored picture exist and circulate.



first Vostok simulator. The remaining candidates would follow a less intensive training programme.

During the training process, Kartashev and Varlamov were injured and dropped out of the first group of six. They were replaced by Grigoriy Nelyubov and Valeriy Bykovskiy. The six were awarded the title of "Pilot-cosmonauts" but prohibited from using the title in public. One of the critical problems was the return of the cosmonaut to Earth. Korolev knew from American reports that the Mercury spacecraft would be put down on the sea by means of parachutes. For this reason the Mercury craft was being made from light alloys of sufficient strength to withstand such a splashdown. Originally Korolev considered following the same path. But the plan was immediately scrapped by Khrushchev: "A Soviet spacecraft must land on Soviet territory" was his order. It was not difficult to imagine the reasons why Khrushchev didn't want a Soviet spaceman to descend into international waters: access to the area where the spacecraft was to splash down would have been open to everybody: western experts and the world's press would have rushed to the spot. At the same time it was impossible to prevent Korolev and his close colleagues from going abroad to welcome the spaceman back. Neither was it possible to avoid undesirable

contacts between Korolev and foreigners, and the names of the designers who had built the spacecraft would have been revealed.

The main problem for Korolev was the tremendous weight involved in such a construction. A capsule destined to be parachuted down to earth had to be far stronger than one brought down on water. This in itself increased the weight. But on top of that was the fact that the speed of touchdown had to be reduced to a minimum, which meant equipping the capsule with a very powerful parachute system. And this increased the weight still further. The problem was partially solved by Korolev when he decided that the pilot of the spacecraft would have to be ejected from his capsule before reaching the ground and would then complete his descent on his own parachute. This allowed the empty craft to descend at a much greater speed and the dimensions of its parachute system could be consequently reduced and become smaller and lighter. As for the cosmonauts, Korolev decided that the ideal candidates had to be male, and had to have height not exceeding 174 cm, weight between the 70-75 kg (necessary to enter the small "3KA" capsule), and be aged between 25 and 30 years. Another issue was that the first spaceman would become a national icon and represent the Soviet Union with honour. To achieve the intended propaganda purposes, the candidates had to have a "clear" relationship to the party and an indisputable past. As he would play an important political role, the candidate was also required to show that he was not simply a 'Russian by passport' but that both his parents were Russian and that all his grandparents were Russian too.

## 100% Russian

That is why the candidatures of, for example, Popovich and Nelyubov who were Ukrainians, of Bykovsky who was half Ukrainian, and of Nikolayev who was a Chuvash, were immediately put aside. They (except Nelyubov, who fell from grace in the meantime) would then be used on subsequent flights, to demonstrate the "friendship of peoples" in the USSR. But the first man in space had to be 100% Russian. It was originally supposed that Cosmonaut No. 1 would be Alexei Leonov, a very skilful and capable man, a brilliant pilot and a professional parachutist. But Leonov was more heavily built, and after the disaster with Dolgov (or whoever it was), Korolev's choice was narrowed. In practice there remained only two, Gagarin and Titov, though another possibility was Vladimir Komarov, who was only slightly larger than the other two. Unlike Titov, Gagarin's name was indisputably Russian, whereas "German" Titov's suggested a "German" heritage (though that was not the case).

A second major condition also played an important role and reinforced the choice: the future cosmonaut had to be of real 'proletarian' origins. Khrushchev planned to organize for the cosmonaut, after the flight, an international propaganda tour and wanted to obtain an additional effect by stressing the point that only the Soviet system could provide the son of a worker or a peasant with a ticket to outer space.

According to Kamanin, Titov in some respects had a stronger character, and was certainly better educated. But Gagarin had the advantage over Titov and, even more so, over Komarov: he was born in a village and had 'impeccable' peasant parents. Although Titov had also a 100% "Russianness", had also been born in a village, and was even shorter than Gagarin, he was however the son of a village teacher: an "intellectual", and that was not quite so good. So Titov became Gagarin's backup. From this point of view Komarov wasn't good at all, as he was the son of an intellectual who lived in a town and, what is more, he was himself an engineer. As Kamanin would reveal in his posthumously published diaries, it had to be considered realistically that his selection would be a death sentence, since nearly everyone believed that the first cosmonaut would have a roughly 50-50 chance of survival. After all, so far out of seven prototypes of the future Vostok spacecraft flown during 1960 and 1961, two spacecraft did not reach orbit due to failures of their launch vehicles and two prototypes had failed to return to the Earth: one had remained in orbit, the other had burnt up in the Earth's atmosphere.

On top of that, there was the ejection procedure to be dared, in which one test-pilot with the highest qualifications had already lost his life. "As revealed during the 2000s, two final (and officially successful) unmanned Vostok missions also had technical problems, even though not fatal. Many veterans of Gagarin's launch later agreed, that in no other time in history would a new spacecraft with such a dismal success rate be certified to carry a human.

However it was a special time indeed. The pressure of Cold War competition between the USA and USSR, enabled the strong-willed head of the Soviet space programme, Sergei Korolev, to skip many secondary tasks on the way to the monumental political goal. "It was not the first and not the last time Korolev took a risky gamble, and won."<sup>3</sup> Gagarin dared to brave the perils of the unknown. There might be a potential tragedy, but thankfully, everything went according to plan, and he returned to Earth. A bold and courageous test flight had propelled Gagarin into history, at the age of 27. It was the first time a new spacecraft was tested in space with an actual crew

Another bold test flight will be commemorated on the same day, April 12, 2021: the history making maiden flight of the first reusable manned spacecraft that NASA called "the boldest test flight in history": After Gagarin this was the first time a new spacecraft was flight-tested with an actual crew on board and that astronauts landed a spaceship on a runway. But this is another story, to be told in another article.

## Gagarin Kiev Special Postmark

Because of the secrecy surrounding every aspect of the Soviet space programme – as we have already mentioned – collectors were not able to prepare their commemorative covers in time. Equally the special cancels could not be

prepared in time, until those prepared in 1975 for the ASTP programme.



But there is one exception: the so-called "Kiev postmark" dedicated to Gagarin's space flight on April 12th 1961. This is the first – and probably the only – Soviet space postmark which was actually used on the exact day of the flight. This was possible because – as it was in the air that sooner or later a Soviet Cosmonaut would fly into space (it was actually expected in February)<sup>3</sup> this cancellation was built as early as in January 1961, without defining the date, waiting to know the exact day of the launch<sup>4</sup>.

This special postmark – designed and produced in the Kiev area by an artist named A. Levin on the initiative of the local Philatelic Club – features a meridian globe with a Soviet worker in overalls standing behind it. The worker is holding up a large space rocket with a Soviet star on its side. The text encircling the globe and the worker reads in Ukrainian: "Triumph of Soviet science – man in space !". Two lines of text in front of the globe identify the postmark date, 12 April 1961, and the postal facility that used the postmark, i.e., the "Kiev Postoffice".

When the news that Gagarin in space was broadcast, the Club managed in few hours to have the date "April 12" engraved in the cancel and to obtain the authorization from Moscow. The special postmark could therefore be officially used at the post office in Kiev for only a relatively short time, on the afternoon of 12 April 1961. Only black ink was used..

So, covers genuinely cancelled covers are quite scarce. The cancelling device was however improperly used in the following days with different colours, including red. All of these have to be considered as favour and back-dated covers. Favour cancels, created after the date in the postmark were not an uncommon practice in the USSR. Some covers also exist postmarked in gold. They are probably memorabilia made by the official Soviet foreign trade organization Mezhdunarodnaya Kniga (also known as "Kniga" for short), responsible– among others – for creating and distributing Soviet philatelic products outside of the USSR. Real gold dust was used for this postmark. Since the cancellation made with this material was probably not successful, only 8 covers of this type are known.

The covers bear the 3-Kopek Gagarin stamp (which was however issued only on April 17, 1961!) and they are therefore clearly backdated. The well known "Gagarin Kiev

postmark" was the first Soviet space postmark which was actually used on the exact day of the flight. The fact that this special postmark was quite scarce and not available on the philatelic market is confirmed by the several attempts of counterfeiting it. Our colleague Julius Cacka<sup>5</sup> lists 3 different type of fakes, with details for identifying them.

### Gagarin Moscow Special Postmark

Even if in Moscow the postoffice probably had their postmark designed and almost ready, and had huge resources and political pull, they couldn't design and finalize their commemorative postmark for the Gagarin flight until the following days: actually their special postmark was used in Moscow only on 13 and 14 April 1961, even if the cancel is engraved with the fixed date of April 12, 1961.<sup>6</sup> Two versions of this postmark are known, which differ from each other for design variations in small details, the main being the graphics and the shape of the fonts in the word "СССР" (Russian for "USSR").



The Type I cancel, above left, used in the main Moscow post office, has rounded letters; The Type II cancel, above right used at the Moscow "K-9" postoffice branch, has "edgy" characters and was used on the 13 and 14 April in really run correspondence.



Above: cover cancelled at the Moscow "K-9" postoffice, originally signed by Yuri Gagarin (from the author's collection) – Below: Backdated Kniga cover with the Gagarin "12 April 1961" postmark



cancelling a stamp issued five days later (three days after the official use of the cancel)

After being used in the two post offices, these two cancelling devices were transferred to the “Kniga” trade company for the subsequent production of commercial postal items. The Type I cancellation was used for the production of first day covers carrying the 3 kopek Yuri Gagarin stamp which was however issued on April 17, 1961, i.e. three days after the official use of the cancel. Also the Type II cancel was used on this stamp, against the current postal regulations. Therefore, there is a real confusion, since some of these envelopes may have been subsequently offered to Collectors as “really run.”

## References

Julius Cacka, *Typy a Padělky Ruských Razítek Tématu Kosmos* (Russian space postmarks and fakes - in Czech), Prag 2006, (2nd Edition), 115 pages

Umberto Cavallaro, *The Race to the Moon Chronicled in Stamps, Postcards, and Postmarks - A Story of Puffery vs. the Pragmatic*, Springer-Praxis, Chichester, UK, 2018, 338 pages

1 <https://tass.com/russia/1246285>

2 According to Russianspaceweb, “Gagarin’s mission lasted 106 minutes, not 108 minutes, the duration that was reported for 50 years and even made book titles.” <https://russianspaceweb.com/vostok1.html>

3 [www.russianspaceweb.com/vostok1\\_preflight.html](http://www.russianspaceweb.com/vostok1_preflight.html)

4 Cacka [2006] p. 48-55 (in Czech – an English translation was issued in AD\*ASTRA # 26 (September 2015) p. 17-20)

5 Cacka [2006] p. 52

## 40 years ago: the maiden flight of Space Shuttle STS-1

by Jeff Dugdale and Umberto Cavallaro

A second bold test flight will be commemorated on the International Space Day 2021, on April 12: the history-making maiden flight of the first reusable manned spacecraft that NASA called “the boldest test flight in history”: this was the first time ever a new spacecraft was flight-tested in space with an actual crew on board and that astronauts landed a spaceship on a runway.

During his time on the surface of the Moon in April 1972, the Commander of Apollo 16, Captain John Young was told privately that he was slated to be the Commander of the first space shuttle, though his name would not be revealed until March 1979, when he was NASA’s Chief Astronaut. The shuttle, then only on the drawing board, was to be revolutionary type of space craft, the size of a single decker bus and designed to land like an aircraft and be reused. Before the delayed launch of Space Transport System (STS)-1 Columbia on its first proving flight on 12th April 1981, the shuttle *Enterprise* had been flown at high altitude a handful of times by other crews but putting into space such an enormous vehicle which looked like an airliner was still a perilous challenge.

Nevertheless Young and Crippen completed 36 orbits and again captured the imagination of the world which had become a little weary of spaceflight achievements. Alluding to the airliner like shape of the shuttle on landing Commander Young asked Mission Control if they would like him to steer his orbit straight into the hangar. The crew of STS-1 had travelled well over a million miles in “the world’s greatest flying machine”.

Six weeks after the flight the USPS issued the mini-sheet grouping a series of eight stamps, designed by the NASA Artist Bob McCall, in which the present and future accomplishments of the shuttle are referenced. The Shuttle is featured in the four central stamps. The top right stamp shows future deployment of a satellite, (which STS-1 did not attempt) whilst the other three stamps represent parts of the STS-1 flight.



Above: FDC of the “Space Achievements” minisheet signed by the stamp designer Robert McCall.

Below: John Young (left) and Bob Crippen (right), together with Bob McCall (centre), display the U.S. Space Achievement stamps at the official ceremony held at the KSC on May 21, 1981. (photo courtesy NASA)



The smaller format stamps allude to other American space achievements, from top left clockwise – the manned moon landings (1969-72), the Skylab manned space laboratory (1973-4), launching the Hubble space telescope (which was much delayed and did not happen until 1990) and the Pioneer II interplanetary probe (launched in 1973).

John Young (1930—2018), who twice flew to the moon, also commanded STS-9 in November 1983. He was one of a small group of astronauts to be launched into space seven times. Bob Crippen (b.1937) went on to command three shuttle flights, his last being his last being STS 41-G, the first shuttle to carry a crew of seven, in October 1984.

In the next thirty years, shuttle crews of up to seven astronauts would experience many triumphs—and cope with two major tragedies. In particular, shuttles delivered the Hubble Space telescope into orbit and repaired it and later scores of flights would bring components of the International Space Station into orbit for assembly. But in January 1986 the shuttle *Challenger* disintegrated during the second minute of its flight killing all seven astronauts on board.

In February 2003, *Columbia* broke up on re-entry having completed the mission objectives of STS-107 again killing all seven crew. Investigations showed that the shuttle had been damaged on launch by falling insulation foam.

The Russians also had a shuttle craft—Buran (“Snowstorm”) - which was launched unmanned in November 1988. Superficially like the US shuttle, it was displayed at the Paris Airshow in June 1989 on top of the world’s largest aircraft, the Antonov An-225 Mriya (“Dream”) but later that year it was revealed that the shuttle programme had been scaled down “as an economy measure”. After a series of further delays the project was abandoned and has never been celebrated on a Russian stamp.



Buran as shown on Ukraine SG 153 Of 1996 and Bulgaria SG 3775 of 1991



The Russians also continued to facilitate space participants (or tourists) to visit the ISS with six individuals paying enormous amounts for a week long spell in the most exotic location imaginable between 2001 and 2009. One of these, Dr Charles Simonyi, a Hungarian-born American software architect and a founder member of the Microsoft Corporation, made two journeys to the ISS.

However after the last shuttle flight in July 2011, the Russians provided the only means of carrying crew and provisions to the ISS in many variants of their faithful Soyuz ferry. Various NASA and ESA (European Space Agency) personnel qualified to command these missions, all launched from Baikonur. As a result of this the ISS has remained permanently occupied, often by as many as six or seven astronauts at the same time.



Launch and landing cover for STS-31 which put the Hubble Space Telescope in orbit.

Launch cover for STS-135, the last ever shuttle mission. Interestingly, the pilot Douglas Hurley was the commander of the first new generation Space X Dragon craft which travelled to the ISS in May 2020.

