

“Rocket” derives from the Italian term *rocchetto*, meaning a bobbin. A rocket is a recoil-powered missile that works without using the oxygen in the air. It can thus accelerate even in a vacuum. When firing a rifle, we feel the recoil. According to Isaac Newton, its force equals the projectile’s force in magnitude. To put it simply, a rocket is an inverted flying rifle without a bullet. All forces cancel each other out in the barrel. The rocket being closed at the front and open at the back means that the outflowing jet propels it forward. The simplest kind of rocket is a balloon that can be inflated to soar into the air.

It was in China during the Han Dynasty (A.D. 25 - 250) that people gained knowledge of the components of black powder: saltpeter (*xiǎo shí*), charcoal (*mùtàn*), and sulphur (*liúhuáng*). The first fireworks consisted of bamboo sticks. Filled with incendiary agents, these sticks exploded or scurried aboveground. Under the Song Dynasty (960 - 1279), the Chinese developed rockets that were called “fire arrow”. In the 1232 Battle of Kaifeng, Chinese soldiers used bows to fire arrows propelled by black powder at the opposing Mongolian army. The rockets were intended to terrify the enemy’s horses. Europeans learned about black powder from Dutch seamen at the end of the 13th century.

Around 1500, Wan Hu – a Chinese mandarin – is said to have seated himself in a chair to which 47 firework rockets were attached, to be shot into the air, holding a kite made of paper in each hand for navigational purposes. The rockets ignited, and Wan Hu was killed in the blast. A crater located on the far side of the Moon is named after him.

Conrad Haas (1509 - 1576) developed 3-stage rockets and multistage rockets in Hermannstadt, Siebenbürgen (today’s Sibiu in Transylvania, Romania). He experimented with various propellant mixtures and used delta-shape fins. His “little flying house” anticipated manned spaceflight.

In 1633, Lagâri Hasan Çelebi is believed to have ascended vertically for 20 seconds in a rocket that was 4.5 m in length and propelled by 64 kg of black powder, near the Topkapı Palace, Istanbul, Turkey, before gliding over the Bosphorus River and landing unscathed.

Indian military used rockets against the Britons in 1792, leading Colonel William Congreve (1772 - 1828) to experiment with rockets that were to reach a flight distance of more than 2,000 m. In 1807, as many as 25,000 British rockets destroyed the city of Copenhagen. Starting in 1839, the British naval architect and artillery expert William Hale (1797 - 1870) stabilized rockets by forcing them to rotate with the means of canted exhaust holes on the rocket’s surface.

In 1888, the Frenchman Amédée Denisse was the first to launch a camera on board a rocket. Between 1903 and 1910, Alfred Maul tested photo rockets on the Glauschnitz shooting range in Königsbrück near Dresden. A 6 m high rocket was launched by a collapsible mobile gun carriage. At a height of 800 m, a photograph was taken from several kilometers away on a 20 x 25 cm photographic plate. In 1912/13, the Bulgarian army used these missiles to seek out Turkish positions at the Battle of Catalca. Because of its greater possibilities, air clarification was afterwards done with airplanes.

PIONEER ROCKET MAIL

Australian Rocket Society

When German troops besieged Paris in 1870 - 71, the Frenchman J.D. Schneiter was granted a 15-year patent for postal rockets. They were planned to cross the front-line and dispatch leaflets to the enemy soldiers.

In the period between the two World Wars, young rocket enthusiasts in different countries launched rockets that carried letters and cards. Some conducted preliminary tests prior to space flight: They experimented with propellants, rocket shapes, and materials; and they launched measuring equipment, cameras, and animals such as insects and birds. The plan was to transport mail to remote or cut-off cottages and villages, to accelerate long-distance mail delivery by using rockets, and to start space travel. These rocket pioneers often used rocket vignettes they had made themselves or obtained from a printer to fund these experiments. The postal administrations either tolerated these vignettes or prohibited them. Rocket-flown mail items of this era are popular with collectors of airmail and astrophilately. Rocket vignettes, designs, and errors make a welcome addition to flown covers. Contrary to official postage stamps, they are privately commissioned, which is why they should not be overvalued. Of some rocket flight experiments, there are souvenir covers that were not dispatched. Counterfeit rocket covers are also known to exist.

Sometimes, rockets were used on board a ship to dispatch letters to the shore of a hard-to-reach island or to another ship; however, hardly any pre-1945 mail of this kind is likely to have survived.

On 03.10.1942, the first A-4 / V-2 rocket rose to 84.5 km, thus reaching what was then considered space. On 20.06.1944, a vertically launched A-4 ascended to 174.6 km. Under Wernher von Brown, these German war bombs were produced on an industrial scale in Peenemünde. They formed the basis of missile weapons and spaceflight of the United States and the Soviet Union, to name the most important. Subsequent mail-carrying rocket flights within the gravity field of Earth made only little contribution to rocket science and space exploration. As a result, pioneer rocket mail ends with World War I.

AUSTRALIAN ROCKET SOCIETY

Alan Hunter Young was an executive architect, later a publisher. He launched his first postal rocket with the Queensland Airmail Society in Brisbane. After three launches, he continued these activities as President of the Australian Rocket Society that he had founded together with Noel Scott Morrison. Ken Atock – a dedicated Brisbane member – launched a rocket in Melbourne. Young and Atock fired rockets that were constructed by local mechanics.

AS-01 * 05.12.1934 * 1st Australian Rocket Flight

For the first Australian rocket flight, a metal container carrying covers was tied to a signal rocket with a long lifeline. It was launched under Captain Campbell by the S.S. Canobar, which was anchoring 45 m from the shore, in the direction of Brisbane. The mail was recovered from the metal container in the presence of the police and the press, and cancelled by the Pinkenba post office.

This rocket flight was to commemorate the arrival of the Duke of Gloucester in Brisbane.

For this purpose, 1,000 envelopes were printed and sold at one shilling each. On the evening before take-off, 103 unsold envelopes were destroyed. Due to the ship arriving late, the start was postponed by one day. The back of the flown covers carry a rocket vignette including a rocket cancellation. To fund the construction of his postal rockets called "Zodiac" and "Orion", Young intended to make money by selling rocket vignettes and covers. The overall objective was to supply remote areas with mail and goods.



AS-01a

With the 1st Australian rocket flight, 897 covers were flown:

AS-01a	Cover	60 €
AS-01b	Cover dispatched by airmail	75 €
AS-01c	Registered cover	200 €
AS-01d	Cover with official service (O.S. = Official Service) stamp The 6p stamp imprinted O.S. dated 17.11.1931 was planned as an official service stamp but was sold at post offices as an airmail stamp.	120 €

Rocket vignettes produced for this experiment:

AS-01V	Vignette in violet, perforated 11 ½ (sheet of 4)	3,000	10 €
AS-01VE	Proof in black (sheet of 4)		20 €

AS-02 * 11.08.1935 * Rocket Flight to Wreck

This signal rocket was launched from Fraser Island off the Queensland coast to the broken Japanese steamer S.S. Maheno. The rubber silk bag containing the covers had a weight of 2 kg. Launch day fell on a Sunday, and all post offices in the vicinity were closed. Therefore, the covers were cancelled by the Pialba post office the next day. All covers were autographed by Alan Young, many by Noel S. Morrison, the Society's Honorary Secretary, and some by S.S. Maheno's Captain, Y. Tanaka, as well.