

From the beginning of space exploration to space mail

The exhibit treats the beginning of the conquest of space following the steps that led to manned spaceflight through:

- those astronomers who paved the way for modern space exploration by applying their laws of celestial mechanics
- the scientific stratosphere balloon flights, the invention of various techniques in developing the rocket for transmission of mail in the 1930's
- the thrust into space by the first giant space rocket A4/V2 in the 1940's
- the scientific and medical research flights by "Man High" and "Strato Lab" balloons and experimental rocket plane flights as well as the bio-rocket tests with animals in the 1950's
- the beginning of the race for the conquest of space through the launching of the first satellites, research rockets and space probes of the USSR and USA in the International Geophysical Year, IGY 1957/58
- to the first men in space, on the Moon and in space stations
- and the realisation of space mail.

Astronomers

Nicolas Copernicus

born 1473 in Thorn – died 1503 in Frombork, Poland



In 1543 Copernicus established with his book "The Revolution of the Celestial Spheres", the world famous thesis that not the earth – an unimpeachable belief for over 1,400 years – but rather the sun is the centre of our planetary system, and laid with the "Heliocentric Universe" the foundation for modern space exploration.



Proof

Astronomers

Galileo Galilei

born 1564 died 1642

The Italian astronomer Galilei championed Copernicus' doctrine of the heliocentric universe and verified it through his own observations of orbits of the planets with his own self-constructed fully-functional astronomical telescope.

He was forced to live the last years of his life in exile for corroborating the thesis of Copernicus.



Johannes Kepler

born 1571 died 1630

Johannes Kepler, the German contemporary of Galilei, orbit of the planet Mars in relation to the sun, that the orbit around the sun. This research resulted in

came to the conclusion through his observation of the planets did not have a circular but rather an elliptical the establishing of the "Three Kepler Laws".



In order to apply Kepler's laws to artificial satellites, one would have to substitute Sun = Earth with Planet = Satellite.

A permanent special cancellation from Weil, the birthplace of J. Kepler, was issued in 1937.



**Astronomers
Mathematics and Physicians
Isaak Newton**

born 1643

died 1727

The great English genius of the 17th century and its relation to the orbits the "Law of Gravitation". Newton's finding an artificial satellite needs



discovered the regularity of gravitation of the planets. In 1687 he set down is important in determining the velocity for orbiting the earth.

In 1687 Newton formulated the law "actio et reactio" which formed the basis for developing the reaction engines that opened the way for spaceflight.



Copernicus, Galilei and Newton caused mathematicians and astronomers of the 18th century to expound intensively on the laws of the motion of the heavenly bodies and their exact orbits. Carl F. Gauss, J. L. Lagrange, and H. Poincaré also contributed greatly here.

The 19th Century opened up greater possibilities for astronomical research through the help of observatories.



Stratosphere Balloon Flights in the 1930's

A Swiss physician, Prof. **Auguste Piccard**, inaugurated the exploration of space by stratosphere balloon. On his first flight, made in 1931 from Augsburg, Germany, he reached the stratosphere but he failed in his main objective: the measurement of cosmic rays and to gather data on their effect on men.

On 18 August 1932 at 5:00 AM, A. Piccard and M. Cosins from Belgium ascended from Dübendorf Airport, Switzerland with his stratosphere balloon F.N.R.S., in a pressurized gondola, into the stratosphere, reaching an altitude of 16.250 meters (53,315 feet).

The scientific instruments worked perfectly.

After 12 hours flight the balloon landed at Volta Montana, near Pozzolengo in Italy.

Piccard and Cosins carried 50 covers on their flight into the stratosphere. Seven were lost after descent.

The flown covers bear the postmarks of **Zurich/Flugplatz 17-8-32** (since balloon ascended on 18th early in the morning) and **Pozzolengo, Italy 18.8.32** and data of the flight with signature of Piccard and Cosins.

One of the 50 covers flown by Piccard and Cosins on their stratosphere balloon flight of 18 August 1932.

This cover has No. 47

2. FORSCHUNGSFLUG IN DIE STRATOSPHERE

des 14.000 cbm Freiballon F.N.R.S. - OO - B.F.H.

STARTORT: FLUGPLATZ DÜBENDORF

LANDUNGsort: *Volta Mantuana (Italien)*

Start 5⁰⁰ Landung 17⁰⁰

Wir bestätigen der Schweiz. Aero-Revue vor-
liegenden Brief in der Kabine des F.N.R.S.
auf eine Höhe von 16.250 Meter mit-
geführt zu haben.

Piccard

M. Cosins

Von diesem Brief wurden 50 Exemplare hergestellt.

Das Vorliegende trägt die No. 47



Mit Luftpost
Par avion
Per aeroplano

Stratosphere Balloon Flights of Prof. Auguste Piccard



A set of the 3 stamps issued in 1932 from Belgium commemorating the two stratosphere balloon flights of Piccard.

Piccard named his balloon F.N.R.S. the abbreviation for "Fonds National Recherche Scientific". This institution in Belgium gave financial support to the realization of Prof. Piccard's stratosphere balloon and his flights.

On 14 December 1932 Belgium honored the historical strato-balloon ascents of Piccard with 70 commemorating covers. The signature of Ing. P. Kipfer refers to the first stratosphere flight on 27 May 1931.



Stratosphere Balloon Flights of Prof. Auguste Piccard

Die proof without numeral of value
of the 1932 issue of Belgium commemorating
the stratosphere balloon flights of Prof. Auguste Piccard.



Stratosphere Balloon Flights of Prof. Auguste Piccard

Proof in original color

printed in 15 specimen

of the 1932 issue from Belgium

for the successful stratosphere balloon flights

of Prof. Auguste Piccard



Stratosphere Balloon Flights in the USA

The stratosphere balloon flight of Prof. Auguste Piccard in 1932 raised interest in the United States, and he was invited to perform a stratosphere balloon flight on the occasion of the 1933 World Exhibition in Chicago.

He proposed his twin brother, Jean Piccard, for this performance and promised to provide him with his stratosphere balloon. Finally, however, Lt. Commander T.G.W. Settle, U.S. Navy, piloted the balloon.



Sketch and signature of Auguste Piccard

On 5 August 1933 at 3:00 AM, Piccard's strato-balloon ascended with Lt. Commander Settle, but after only twenty minutes it made a crash landing in the Lake Michigan, caused by a valve malfunction, and was picked up by a recovery ship.

Official commemorative cover of the 1933 Century of Progress stratosphere balloon flight with postmark of place of ascent and special ship cachet related to crash.



Stratosphere Balloon Flights in the USA

The failed trial of 5 August was followed on 25 August 1933 from the Exhibition Centre in Chicago a second stratosphere balloon flight. Commemorative cover marking this event.



On 20 November 1933, Lt. Commander T.G.W. Settle, U.S. Navy and Major Ch. Fordney, U.S. Marines, ascended from Akron, Ohio on a scientific research flight in the S-113 strato-balloon and after setting an official world altitude record of 61,237 feet (18,615 meters), landed at a farm in Fairton, New Jersey.



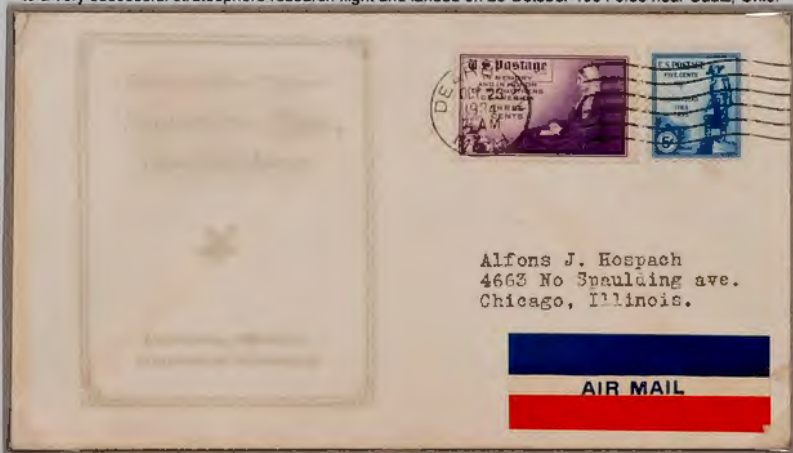
Flown cover postmarked at Fairton, N.J., with signature of the postmaster and the farmer of the landing place, S.N. Johnson.

Handwritten separate info from Major Chester Fordney

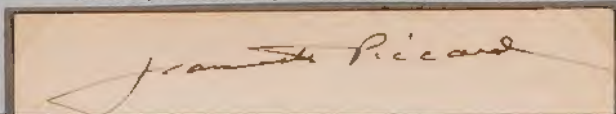
Stratosphere Balloon Flights in the USA

On 23 October 1934 at 9:00 AM, the twin brother of Auguste Piccard, Professor Jean Piccard, ascended with his wife Jeanette, who became the first woman to travel into stratosphere.

They ascended from Ford Airport near Greenfield/Dearborn, Michigan, to a very successful stratosphere research flight and landed on 25 October 1934 5:30 near Cadiz, Ohio.



A few covers were flown by Prof. Piccard and his wife on the stratosphere balloon and were postmarked with place and date of ascent and descent.



"Explorer" Stratosphere Balloon Flights in the USA

On 28 July 1934 at 6:00 AM, the stratosphere balloon **Explorer I**, a co-operative scientific project of the U.S. Army and the National Geographic Society, ascended from Black Hills near Rapid City, South Dakota, for a research flight.

At 4:50 PM the balloon made a crash landing near Holdrege, Nebraska.
Capt. Albert **Stevens**, Major William **Kepler** and Capt. Orin **Anderson** could escape by parachute.

Cover flown by Fokker C-14 escort of the Explorer I with hand-written note by pilot



A small number of covers were flown on **Explorer I** and recovered after the crash landing which have a special rubber stamp "Stratosphere Mail" and bear the postmark of Omaha, Nebr., Jul 28 11:30 PM 1934.

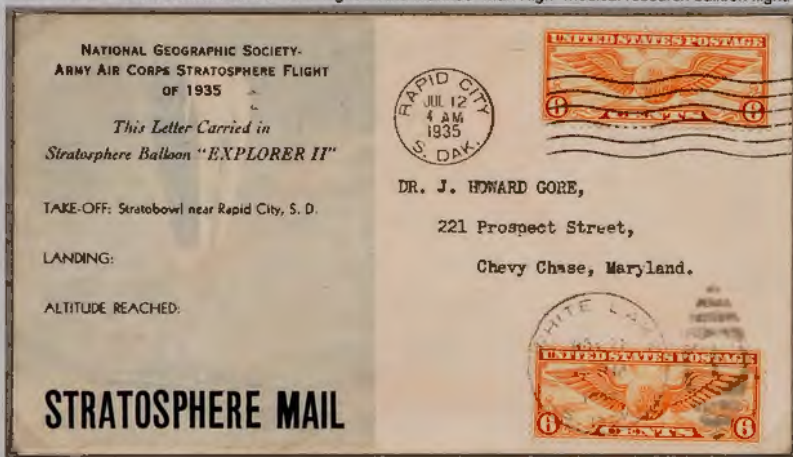


"Explorer" Stratosphere Balloon Flights in the USA

After the crash landing of Explorer I the U.S. Army intended to launch a much larger strato-balloon, **Explorer 2**, on 12 July 1935, but that balloon burst during inflating. The prepared mail was stored.

When the repaired Explorer 2 ascended from Black Hills on 11 November 1935 the pilots, Captain Albert **Stevens** and Capt. Ori **Anderson**, carried the stored mail, postmarked on the postponed date of ascent - 12 July 1935 - aboard this flight.

The **Explorer 2** landed at White Lake, South Dakota after 8 hours of flight, having reached the record altitude of 72,395 ft (22,065 m). This record was not broken until the 1957 flight on the manned "Man High" medical research balloon flight.



The official "Stratosphere Mail", carried by the pilots on **Explorer 2** were postmarked at the post office White Lake, South Dakota after landing, confirmed by the card contained in the envelope.



Stratosphere Balloon Flights in Russia

1938 issue of Russia commemorating the

first successful stratosphere flights in 1933



On 30 September 1933 the Russian scientists Prokofjew, Birnbaum and Godunow performed the first stratosphere balloon flight in Russia. The stratosphere balloon ascended to an altitude of 62,340 ft (18,950 m) and successfully conducted research of the upper atmosphere.

Cover with set of three stamps issued in 1933 by the Soviet Union marking this achievement.



Stratosphere Balloon Flights in Russia

On 30 January 1934 the Russian scientists

Vassjenko



Proof

Ussykin



ascended with the stratosphere balloon Sirius to an altitude of 63,235 feet (19,225 m).

Fjedossjenko



Proof

Unfortunately all of them died in an accident later on the flight.

Cover with set of 3 stamps issued in 1934 commemorating the Russian stratosphere balloon disaster in 1934 and the three scientists.



Jules Verne

Born 1828 in Nantes - died 1905 in Amiens

1955 issue from Monaco to the 50th Anniversary of Jules Verne's death.



The stamp depicts Jules Verne with a rocket and a section of his novel "De la Terre à la Lune" (From the Earth to the Moon).

In his science fiction novel the French novelist Jules Verne described for his generation a fantastic story and the prediction of a technical revolution which came true with the invention of the rocket



Pair of proofs in different color

Jules Verne's description of a manned flight to the moon by means of rocket is of amazing identity with that realized 100 years later by the historical flight of Apollo 8. Even the launch site of his moon-rocket ship was in Florida, at Tampa, not far from the KSC.

Special cover and cancellation from Nantes to a "Jules Verne Day" on 11 October 1947.



Early Rocket Experiment from Stratosphere balloon

At the end of the 1920's and in the 1930's the idea of space-flight became more realistic. Scientists and rocket engineers strived for this goal by following different courses.

Austrian rocket pioneer **Ing. Friedrich Schmiedl** was one of the most important rocket pioneers, using rockets to carry specially prepared mails. At his first rocket experiment he used a stratosphere balloon to achieve a high-altitude rocket launch.

On 10 July 1928, Ing. Schmiedl performed this first test using an **F.S.1 stratosphere balloon**.

It carried a tiny rocket into the upper atmosphere for a special experiment, together with 200 prepared covers.

The **F.S.1** strato-balloon ascended from Graz, Austria and at an altitude of 52.500 ft (16,000 m) the rocket was fired from the balloon by automatic ignition. Schmiedl thus sought to prove that a rocket achieves much more capacity by an energy-saving launch condition outside of the conditions of the earth's atmosphere.

The flown covers carried on the **F.S.1** balloon bear the postmark of Graz, place of landing, and a special triangular 3 Groschen vignette referring to this event. There exist 2 different types of the gondola.



Vignette with gondola type I - on cover No 82

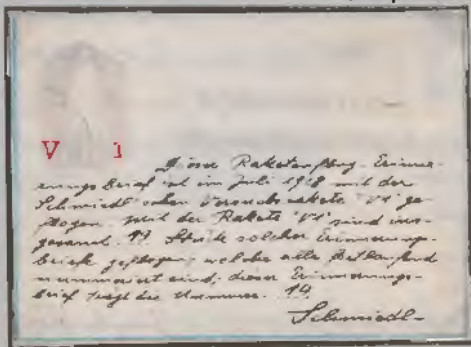


Vignette with gondola type II with inverted 3 - on cover No 21

Mail Transport by Rockets

Early rocket pioneers of different countries developed the principles of rocketry which formed the foundation for eventual exploration of space. They utilised their experimental rockets for the purpose of transporting mail, especially with the ostensible aim of supplying people living in the highlands on islands or often over flooded areas with medicine, food and messages thus lending a dimension of practical value to their work.

First Transport of Mail by Experimental Rockets

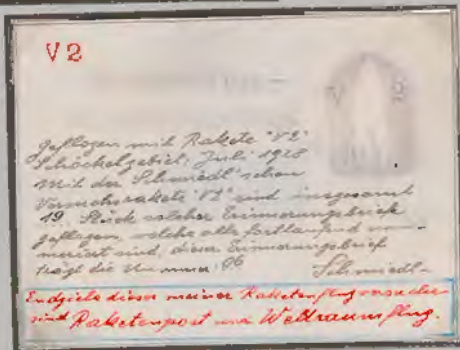


In the late 1920's and the early 1930's, Ing. F. Schmiedl launched a test series of six small experimental rockets the - V1 through V6 – as precursors to full operating "Rocket Mail".

The flown commemorative covers of folded silk paper have special blue rocket cachets and each a special handwritten inscription from Ing. Schmiedl and technical data on reverse side:

V1	Launch place:	Schoeckelgrund
	Date:	July 1928
	Launch angle:	80°
	Launching pad:	61/2 x length of rocket
	Aim of trial:	Test of pressure registering instruments

According to the inscription of Schmiedl: 19 covers were flown on V1 in July 1928 and this cover has the number 14.



V2 was also launched in the Schoeckel area in July 1929
On the covers Schmiedl expresses his main challenge in writing in red ink letters:

"Final goal of my experimental rocket flights is **Rocket Mail** and **Spaceflight**"

No. 06 of a total of 19 covers flown on V2 in July 1928.

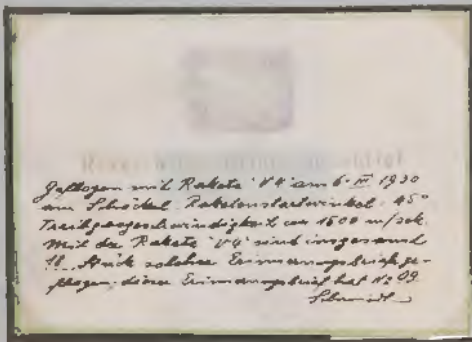
On 6 March 1930 Schmiedl launched his experimental rocket V3.

Cover No. 10 of a total of 18 flown on V3 experimental rocket

At first Schmiedl had not intended to load his tiny rockets with mail. Finally, however, he decided to store in each rocket a small number of "Rocket-flight Commemorative Covers". After the flight he gave the flown covers to his assistants and patrons.



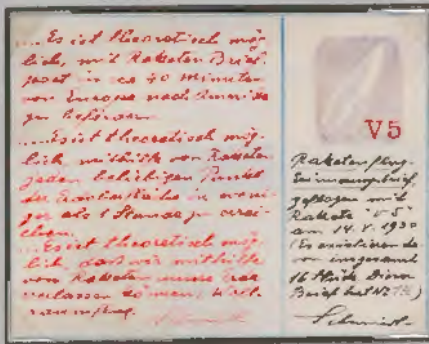
First Transport of Mail by Experimental Rockets



V4 was also launched on 6 March 1930. The 6 experimental rockets functioned by Schmiedl's specially developed solid propellant and were equipped with a radio control.

According to his handwritten inscription V4 reached a reaction gas velocity of ca. 1500 m/sec (1 mile/sec)

Cover No.9 of a total of 18 carried on V4 on 6 March 1930



How much Schmiedl was preoccupied with the probability of manned spaceflight he demonstrated in hand-writing on V5 cover launched on 14 May 1930:

...Theoretically it is possible to transport mail by rockets within 40 min. from Europe to America

...Theoretically it is possible to reach by rockets any point on the earth in less than 1 hour

...Theoretically it is possible that we leave by rockets our earth: **Spaceflight**

Cover No. 14 of the total of 16 flown on V5 on 14 May 1930.

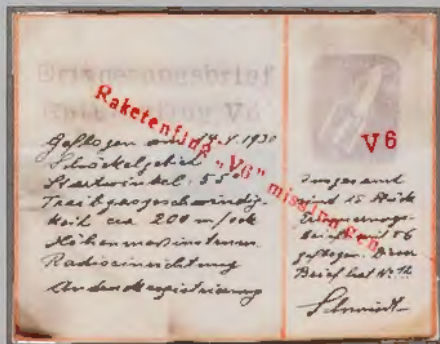
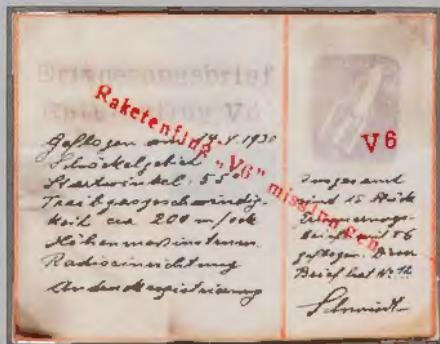
The experimental rocket flights with V1-V5 rockets succeeded as planned but

V6 exploded on flight and a part of the 15 covers carried aboard were burned.

According to Schmiedl's inscription V6 had a reaction gas velocity of 200m/sec and was equipped with altitude measuring, radio control and pressure registering instruments.

A rubber cachet "Rocket flight failed" was applied on the recovered covers.

This is cover No 12 was carried by V6 on 14 May 1930



The "World's First Rocket Mail"

On 2 February 1931, Schmiedl succeeded with his rocket V7 to dispatch the first mail. By this time his full-operating rocket had reached a size and power capable of the distance from a mountain top at Schoeckel, to a nearby town Radegrund the planned landing place.

The V7 experimental rocket carried 102 covers and cards.

90 copies of an Austrian 10 Groschen postage



stamp had been hand-inscribed by Schmiedl:

"Rocket Mail flight Schmiedl 2-2-1931"

and consecutively numbered.

57 items were prepared with the special rocket stamp and 45 items with regular postage stamps.

Covers bear two rectangular box cachets, with the imprint "V7" and a hand-inscribed date and number of the flown item. With a four lines inscription Schmiedl refers to the V7 experiment. Further postal forwarding after landing was not possible since Sunday and post office closed.



No.047 of the 45 flown covers without hand-inscribed rocket stamp.

No.048 is one of the small number of Rocket Post stationery flown on V7 with handwritten note: "To be transported with "V7"!"



Rocket Mail Experiments for Technical Improvements

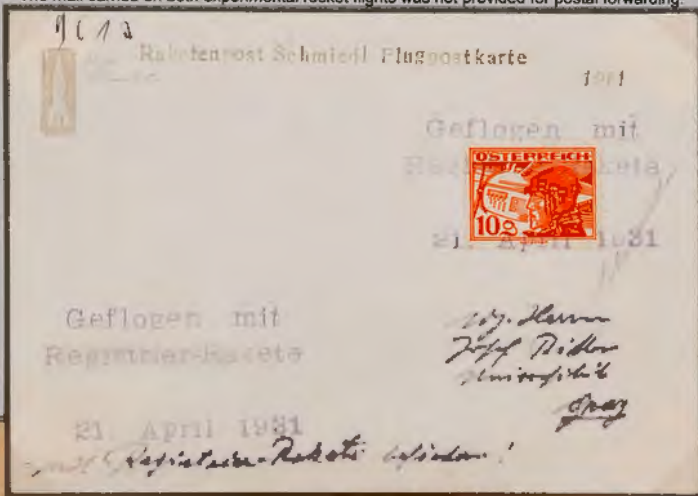
Apart from his remarkable achievements in rocket mail, the primary significance of Ing. Schmiedl was his range of rocket experiments, testing about 50 models of different geometry and technology by using solid and liquid propellant.

On 21 April 1931 Schmiedl launched a so-called "**Registrier Rakete**" with 79 covers and cards aboard and various self-constructed mini-sized measuring instruments for data collection of the upper atmosphere and UV rays.

Special Rocket Stationery No. D38 flown by Schmiedl "**Registering rocket**", 21 April 1931.

On 28 October 1931 Schmiedl succeeded with **V8** rocket in realizing the **First Night Flight** by optical steering.
Flown cover No. 010 of a total of 84 carried on **V8** "Night flight 28 X 1931".

The mail carried on both experimental rocket flights was not provided for postal forwarding.



The World's First Official Rocket Mail for public use

On 9 September 1931

Schmiedl succeeded in launching the first world recognized rocket transporting mail for public use.

The rocket R1 carried 333 pieces of mail from Austrian mountains at Hochtroetsch to Semriach.

The "Rocketmail" was safely landed by parachute and delivered to the nearby post office at Semriach for forwarding.



Reverse side

The 500 rocket stamps prepared for this event have on the reverse side the inscription "Experimental Rocket R1"

R1 was of 1.70 m (5,60 ft) length. Empty weight 7 kg (15,5 lb)+ 24 kg (53 lb) solid propellant. Ø 23,5 cm (9,3 inches) reaction power velocity 2,200 m/sec (1,4 miles/sec).

Besides the transport of mail, Schmiedl also experimented with living beings and performed the first bio-research test with the R1 rocket.

In separate metal capsules the R1 carried beetles and butterflies so their condition could be studied after return from a flight in weightlessness.

Card No. 183 flown on the Schmiedl rocket R1, with rocket stamp gummed by error on reverse side, further forwarded by Registered mail from Semriach on 9 September 1931.



Experimental Rocket Mail Flights

On 11 April 1932 at night Schmiel launched the **V11** rocket for proving the function of a new type of rocket under stormy and bad weather conditions. He also used a new combination of propellant to avoid an explosion after ignition. 28 covers were flown on V11 on 11 April 1932 and 11 covers were further forwarded by the post office in Liebenau and 14 covers from Graz. (3 covers were not posted at any post office).



On 10 December 1932 Schmiel started with **V17** his first experimental **Stage** rocket.



The stage rocket consisted of two separate sections, combined into one rocket, each with its own compartment for mail and an explosion chamber. After burnout of the first stage and separation of its mail compartment

Cover No. 084 flown on **Stage 2**



Cover No. 308 flown on **Stage 1**

the second stage was automatically ignited and continued the flight with the rest of the mail.

A total of 380 covers were flown on stages 1 and 2 of the experimental flight of **V17**.

The covers bear a 30 Gr. rocket stamp on those of **Stage 1** and 60 Gr. rocket stamp on covers flown with **Stage 2**. Further postal forwarding after landing was not planned.

Experimental Rocket Mail Flights

On 16 March 1933 Schmiel launched from Garrachwaende/Austria rocket **V14** with 243 covers aboard which after landing near Passau were further forwarded by regular mail.

Besides mail Schmiel transported with **V14** an inflatable balloon-envelope.

At a projected height the balloon was deployed and automatically inflated by a capsule along with compromised gas. Schmiel wanted to give proof that in the upper atmosphere and above it needs less gas.

Cover flown on experimental rocket **V14** on 16 March 1933



For the flights of V14, 15 and 16, the Austrian post imprinted special silk covers with 3, 5, 24 and 40 Gr. postage stamps. For **V14** a green 8 Gr. and for **V15** and **V16** a blue 1 Schilling triangle special rocket stamp was prepared.

Cover flown on **V16** rocket, on 27 September 1933 from Hochlantsch to St. Jacob near Mixnitz and posted to Rotterdam.



The World's First Rocket Mail Dispatch by Stage Rocket

After two trials in advance with the rockets V17 and V18 to prove proper function (with no further forwarding of mail carried by these rockets), Schmiel succeeded in a **first rocket mail dispatch by a Stage rocket** on 27 October 1933 from St. Martin.

The **Stage rocket** functioned same as explained for V17 experimental stage rocket.
The compartment of **Stage 1** had 187 covers aboard and **Stage 2** carried 191 covers.

After landing by parachute at different places in Grazerfeld, Austria, the mail was delivered to the post office Graz 1 where a date cancellation and a "Postage Paid" meter-type marking, with 005 Groschen for domestic and 008 Groschen for abroad, were applied on the rocket mail covers. On reverse side, a rubber cachet refers to "Stage 1" or "Stage 2".



A cover carried on **Stage 1** of this early Schmiel **Stage rocket**.

On 29 December 1933 Schmiel launched K1, his first **Catapult rocket** from ship to land, from Steinsee to Mueral. The covers flown on K1 bear special marks referring to the event, a brown 20 Gr. rocket stamp with black overprint "Katapultflug" and a label "With Rocket-mail Catapult flight". No further postal forwarding took place.



Double overprint error on rocket stamp

"N" Series of Schmiedl's Rocket Mail Experiments



Geflogen mit Rakete 'N2'
Schmiedl

N2 352

RAKETENFLUG
KARTE E 2P



Herr Professor
Hans Böhme
Graz
Schillerplatz 13

On 25 February 1935 Ing. Schmiedl launched an N2 rocket from Edelschrott carrying 80 of each of a series of 6 numbered postcards with photos of his rocket experiments.

The "Rocket Flight" postal stationery cards have imprinted 3, 5 and 12 Groschen postage stamps prepared by the Austrian post.



Geflogen mit Rakete 'N2'
Schmiedl

N2 108

RAKETENFLUG
KARTE C 36



Herr Professor
Hans Böhme
Graz
Schillerplatz 13

Excerpt of 3 from a series of 6 "Rocket Flight Cards A-F" flown by "Notverordnungsrakete" N2 on 25 February 1935.

In 1935, forced by the political situation, Schmiedl accomplished his last Rocket Mail experiments. He called this last test series "N" which stands for "Notverordnungsrakete (emergency decree rocket)" since the Austrian post-authority prohibited Schmiedl from using the Rocket mail stamps.



Geflogen mit Rakete 'N2'
Schmiedl

N2 052



RAKETENFLUG
KARTE A 52



Herr Professor
Adolf Schlegel
Graz
Schumannsgasse 27

Final Rocket Mail Experiments in the 1930's in Austria

On 21 December 1935 Ing. Schmiedl concluded his over 30, mainly very successful, most exciting and promising Rocket Mail experiments, with the launch of **N6** and **N7**.

For the first time he equipped the infra-red steered rockets with liquid propellant.



One of the 27 covers flown on **N6** and of the 29 covers flown on **N7**, postmarked after landing at Goesting near Graz, 21 December 1935.



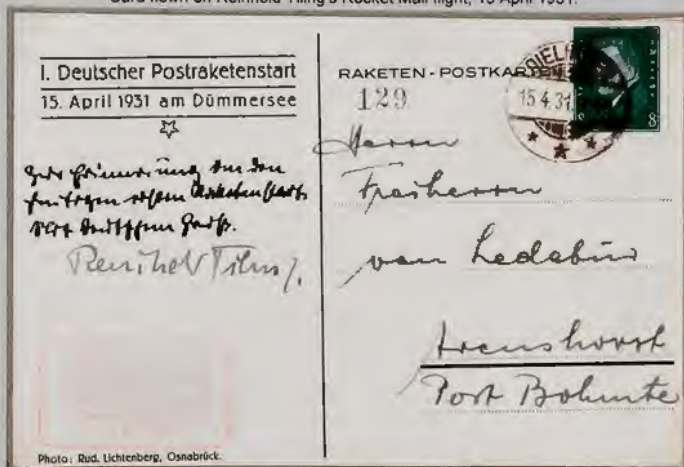
Rocket Mail Experiments in Germany

The German rocket pioneer **Ing. Reinhold Tiling** was the first to succeed in launching a postal rocket in Germany.

On 15 April 1931 Tiling launched a solid fuel rocket from Ochsenmoor at Dummersee which reached a height of about 1,500 to 1,800 meter. His rocket was provided with lateral extendible wings which automatically operated at the beginning of descent, and the rocket made a soft glide landing (a similar principle to that now employed with the Space Shuttles).

After the successful landing, 188 numbered special rocket cards flown on this flight were delivered to the nearest post office -Dielingen- for further forwarding.

Card flown on Reinhold Tiling's Rocket Mail flight, 15 April 1931.



Commemorative card referring to a demonstration of a "Tiling Rocket- plane FTL" at the Airport in Berlin Tempelhof on 13 November 1932.

During a test with liquid propellant Reinhold Tiling was killed by explosion on 11 October 1933.

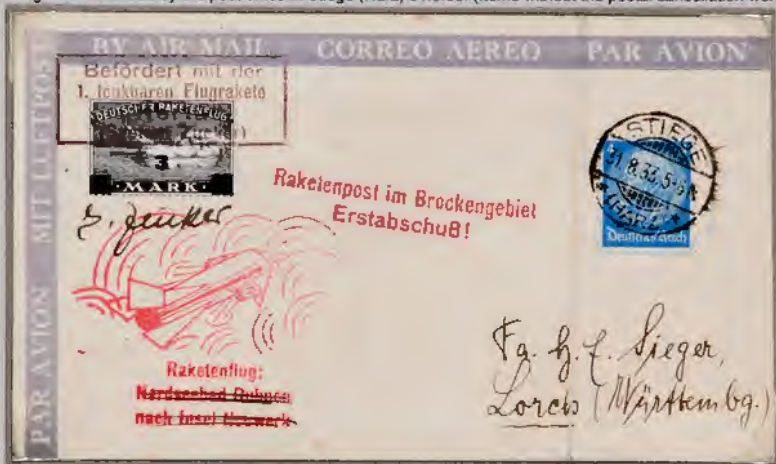


Rocket Mail Experiments in Germany

On 31 August 1933 the German rocket pioneer **Gerhard Zucker** launched his first rocket with 370 pieces of mail from Hasselfelde to Stiege (Harz mountains). The mail, prepared with the first German 3 Mark rocket stamp and cachet "Dispatched by the first steerable rocket 'Herta' System Zucker" and "Rocketflight: Duhnen to Isle Neuwerk".

The latter was crossed out since planned to be flown by rocket in April 1933 but the flight was prohibited by the authorities.

The later flown mail by 'Herta' rocket bear an additional third stamp "Rocket Mail in Brocken area First Launch!" and after landing was forwarded by the post office in Stiege (Harz) 31.8.33. (Items without the postal cancellation were not flown).



On 4 November 1933 G. Zucker launched his **First Rocket Mail Flight at Night** from Stiege (Harz) to Hasselfelde. Special 1 and 3 Mark rocket stamps and cachets refer to this event.

The rocket exploded after launch and out of the 370 flown mails 332 were totally destroyed, and only 38 recovered which were further forwarded by the post office in Hasselfelde. Flown card with postmark Hasselfelde 4.11.33. 17-18 (Items without postmark are not flown).



Rocket stamp with inverted 3

Rocket Mail Experiments in Germany

On 8 April 1934 G. Zucker achieved in the Harz mountains near Blankenburg his "First Rocket Catapult Flight" with 100 cards and covers aboard. After ignition of the rocket a catapult device, attached at the launch ramp, was released to give additional drive in the launch phase.

Flown cover with postmark of Blankenburg after landing, an earlier rocket stamp and the special rocket cachet to the event.



On 9 November 1935 Schmieltd accomplished a rocket mail experiment at Scharmuetzelsee with 2 rockets, each with 50 covers aboard. After the successful flight, the mail was delivered to the near post office Fuerstenwalde.



With this experiment Gerhard Zucker ended his intensive research-work with rockets for transport of mail during the 1930's in Germany.

Rocket Mail Experiments in England

Gerhard Zucker performed his rocket mail experiments not only in Germany but also abroad.

For a rocket mail test in the Netherlands provided in 1934 Zucker prepared a set of 3 rocket stamps. Since the flight was cancelled Zucker decided to use it at a rocket mail experiment in England. Two rocket stamps were overprinted with "Rocket Post England" and 5 sh for letters and 2/6 for cards. However, they were never used for rocket flights in England.



Proof



On 6 June 1934 G. Zucker started his first Rocket Mail experiments in England at Sussex on the occasion of an International APEX Exhibition.

Two flights were performed by the same rocket. 1,400 covers were carried on the first and 1,464 at the second flight.

They bear red and green APEX stamps with overprint "Rocket Post British Flight".

The flown covers were postmarked by franking machine Brighton & Hove, Sussex, on 6 Ju 34.

499 were further forwarded abroad with postage due noted 4P PAID.

On 31 July 1934 Zucker intended to dispatch a rocket from the Isle of Scarp to Harris.

The covers were prepared with special rocket stamp "Western Isles - Rocket Post".

Special cachet on reverse side of covers



The rocket exploded but the mail was recovered and further postal forwarded by post from Harris.

Rocket Mail Experiments in Switzerland and Netherlands

On 27 July 1935 Zucker launched a rocket with 100 mails for a test-flight in **Switzerland** from Wasserauen to Saents, 2,504 meter. The launch was successful, but the rocket was too heavy to manage the vertical flight thus missed its goal. Some of the mail carried along was postmarked the evening before in Lindau and forwarded after flight.



On 6 March 1935 Zucker launched at Katwijk ann Zee, **Netherlands**, a rocket with 600 covers aboard. 20 covers bear the triangular 50 ct rocket stamp provided for a never happened rocket mail flight in 1934.



Experimental Rocket Mail Flights in France and Luxembourg

The French rocket pioneer **Charles Roberti** experimented with postal rockets in the 1930's, mainly in France and Belgium and also once in Luxembourg.

On 9 September 1935, on the occasion of an Aviation Festival at Le Tréport in France he launched his first rocket, "Arienne", with 300 covers and 200 cards aboard.

The flown card, addressed to Paris, bears a black stamp "Mairie" from the local authority, a red stamp that reads: The Festival Committee Le Tréport (Seine).

"For the first time in France this card was sent by Rocket Arienne and further forwarded by the service of the post (P.T.T.)"
The flown mail was postmarked at the post of Le Tréport (Seine) 9-9 35.



On 17 July 1935 in Luxembourg Roberti launched the first liquid propelled postal rocket by using carbonic acid (carbon dioxide). The 300 covers carried on this experimental flight bear a special rocket stamp and a hand-written inscription of Roberti "in memory of the 1st carbonic acid rocket-flight". They were postmarked and re-dispatched by the post office nearby at the landing place of Clearvaux.
Cover flown on Charles Roberti rocket mail experiment in Luxembourg



Experimental Rocket Mail Flights in the Netherlands

In the early period of rocket mail experiments one must also mention the Belgian Dr. A.J. de Bruijn who started his test flights in 1936 with postal rockets in the Netherlands.

For his rocket experiments he prepared a number of different rocket stamps and cachets.

On 9 June 1936 de Bruijn performed in the area of Ysselmonde his first experiment with a postal rocket with 132 covers aboard. After landing were further forwarded by post.



As other early rocket pioneers de Bruijn had set backs.

Yet, such experiences were often helpful for further improvements.

On 31 July 1936 a postal rocket exploded after launch and the stored mail was damaged and not further forwarded.



Rocket Mail Experiments in Yugoslavia

On 19 August 1935 a rocket mail test took place in Maribor as precursor to the rocket flights "Jug I" and "Jug II".



280 special rocket stamps of yellow paper with green overprint were prepared for this flight.

H. Weihs, a reporter and Schmiedl's friend and sponsor, conducted the trials with solid propelled rockets designed and constructed by Schmiedl.

The 187 cards carried by this test rocket were prepared by the postal authorities.

The flown cards bear the rocket stamp numbered and signed by Weihs, a special rocket cachet and a postage stamp cancelled at the post office in Maribor 19. VIII. 35-21.

Flown card No. 129 on the test flight of 19 August 1935



Rocket Mail Experiments in Yugoslavia

On 20 August 1935 H. Weihs launched in Hoce, Yugoslavia, the postal rockets **Jug I** and **Jug II**.

The rocket **Jug I** carried 277 covers and **Jug II** 282 covers of silkpaper aboard.

The flown covers also bear the postmark from Hoce 20. VIII, 35 - 7.

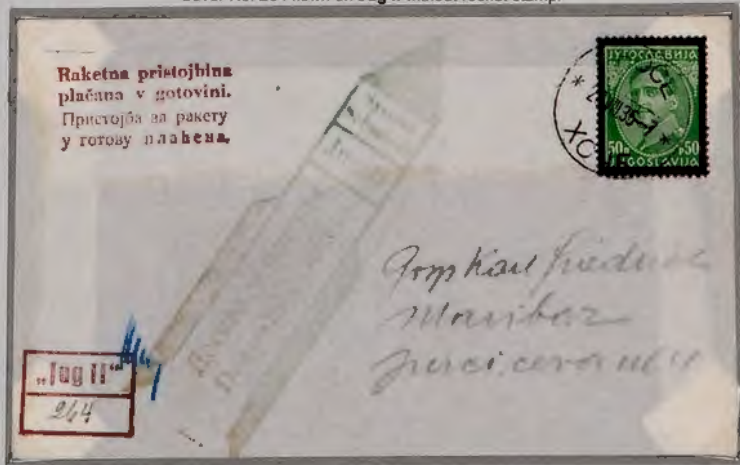


Cover No. 072 flown on **Jug I**

For both flights special numbered rocket stamps of black linocut, special cachets in red and green and a brown rectangle cachet for Jug I and Jug II with the number of cover were prepared.

From **Jug I** and **Jug II** there exist from each 43 covers without rocket stamp but a rubber cachet of 4 lines declaring that the fee for "rocket flight" has been paid.

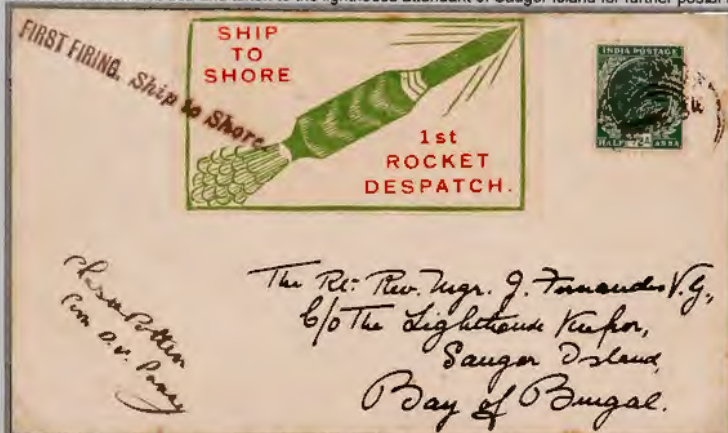
Cover No. 264 flown on **Jug II** without rocket stamp.



Rocket Mail Experiments in India

An important and most successful rocket pioneer with rocket mail was Stephen Smith, a British engineer. Born in 1891 in Assam, India, he started his experiments with postal rockets in the 1930's and performed 63 experiments with different purposes in India, and 16 in Sikkim, most of them successful in testing various technologies

On 30 September 1934 he dispatched his first experimental postal rocket with 143 covers from the ship "Pansy" to Saugor Island near Calcutta. The rocket exploded shortly after launch. The mail was recovered from the sea and taken to the lighthouse attendant of Saugor Island for further postal forwarding



Cover flown on the first **Ship to Shore** rocket experiment with special rocket stamp and cachet for the event, with postmark from Saugor Island and signed by Chasen Potten, Capt. from the (Dispatch Vessel) D.V. "Pansy".

On 3 October 1934 Stephen Smith launched a postal rocket with 135 covers, stored in a water proof case, from Saugor Island to the ship R.S.V "Guide" while a terrific gale was blowing inwards from the sea. The rocket mastered the distance of about 1 km but shot beyond the mark and was recovered from the sea. The mail was delivered to the post office at Muriganda for further forwarding on the day of arrival 4 October 1934.

Cover flown on the first **Shore to Ship** postal rocket experiment on 3 October 1934 and signed by the lighthouse attendant from Saugor Island, Rashon Ali, who fired the rocket.



First Rocket Mail Experiment at Night

Smith wanted to reach flooded areas by rocket in the shortest time with food, medicine, and messages.

On 16 December 1934 he achieved the "First Night Firing Rocket Dispatch".

Two rockets were fired at 9 P.M. from a boat and landed safely on shore about 1 1/2 km away.

Rocket stamp "Ship to Shore" prepared for this event.



Each of the two rockets had 110 special prepared covers, supplied by the "Statesman", aboard with a miniature copy of a "Statesman" newspaper.

The covers bear the rocket stamp, two special cachets "By Rocket Mail", and one from the Saugor Island semaphore station and the postmark of Park Street Station Calcutta 16 Dec. 34, 9 AM.

Cover flown by rocket on 16 Dec. 34 from ship to Saugor Island and miniature of the "Statesman".



Rocket Mail Experiment with first Parcel Dispatch

On 6 June 1935 the first **Rocket Parcel Despatch** was performed by Smith in India over the river Roopnarain from Kolaghat. The flight was successful. The first rocket, No.60, carried 150 covers and a parcel with food and cigarettes for relief of the earthquake victims. This is listed by Smith on reverse side of the cover.

Rocketgram flown on rocket No.60 on 6 June 1935, postmarked at Kolaghat after arrival.



The launch of the second rocket, No. 61, immediately followed. This time it carried 110 covers and also a parcel with medicine requisites for the Red Cross. The rocket shot over the target but the mail and parcel could be recovered.

Rocketgram flown on rocket No. 61 and posted at Kolaghat post office after return.



Inventory list on reverse side.

Contents of Rocket Despatch.

- | | |
|-----|----------------------------|
| (1) | One Packet of Lidat |
| (2) | " bottle " Iodine. |
| " | " " Iodex |
| " | glass tube " Lucaspirin. |
| " | bottle " Halivoret. |
| " | Packet " Epsom Salts. |
| " | Two rolls " Bandages. |
| (8) | 11.0. Such messages. |

S. P. Smith

Livestock and Telescope Experiments with postal rocket

On 29 June 1935 Smith started his first bio-experiment with Livestock Rocket "David Ezra" transporting besides 189 messages, a cock named Adam and a hen named Eve over the river Damoodar. The two living passengers arrived after a successful flight at a speed of 1.6 km/sec in good condition.

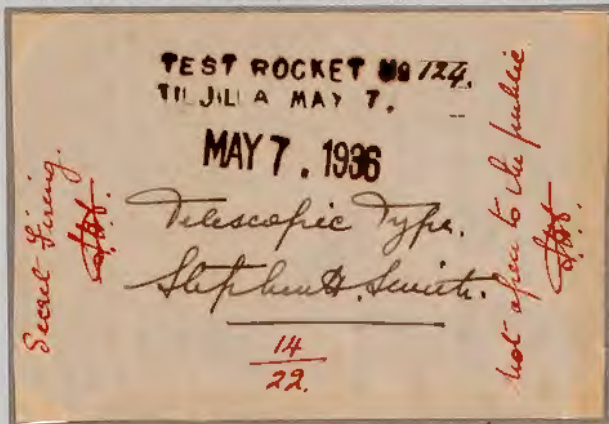
The specially prepared covers, the rocket stamp "R. No 65 Livestock", and the cachet refer to this achievement. Cover was flown by Livestock rocket, 29 June 1935, and posted at Burnapur post office after arrival.



Inventory list
on reverse side

Contents of Rocket.	
1	189 Such Messages.
2	<input checked="" type="checkbox"/> A Cock (Adam)
3	<input checked="" type="checkbox"/> A Hen (Eve)
	<i>Steph Smith</i>

On 7 May 1936 Smith performed in Tiljilla a "secret firing-not open for public", to test a newly developed technique of the telescopic rocket. The test worked perfectly. No. 14 of the 22 flown covers on 7 May 1936 by the experimental telescope rocket.



Experiment with Telescopic Postal Rocket

On 9 June 1936 Smith succeeded in launching a new type of telescopic rocket called "Star of India" from Matkpur. There were 80 messages on board, and food was sent for the first time to a over flooded area near Dhapa.

The advantage of the telescopic rocket is described in the newspaper cutting.

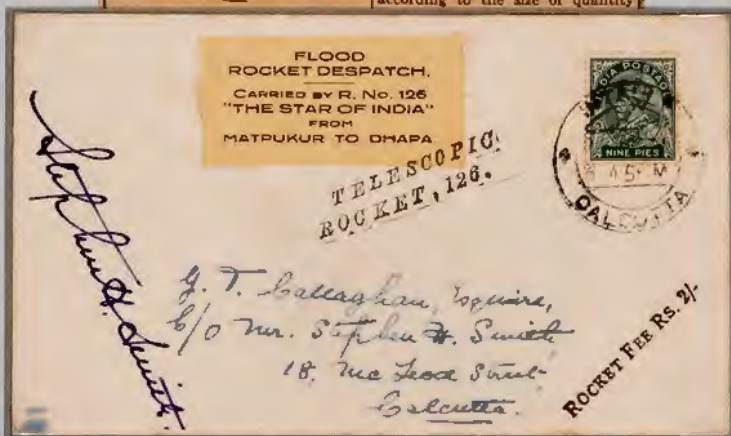
"STAR OF INDIA'S" FLIGHT

Rocket Despatch

OVER FLOODED
AREA

telescopic type. These telescopic rockets can be lengthened or reduced in size without any further addition of material than in the original construction. The advantage, according to Mr. Smith, of this telescopic type of rocket as the *Star of India* lies in the fact that there is no fixed amount of space, according to the size or quantity

Cover flown by the "Star of India" rocket of Stephen Smith, 9 June 1936.



On 21 September 1936 Stephen Smith launched a second bio-experiment by a telescopic rocket. This time with 106 messages and a living snake named "Miss Creepy", and an apple aboard on a flight from Chingripota to the flooded and isolated area of Malikpur.

The flown covers were postmarked at a nearby post office in Sonarpur, 21 September 1936.

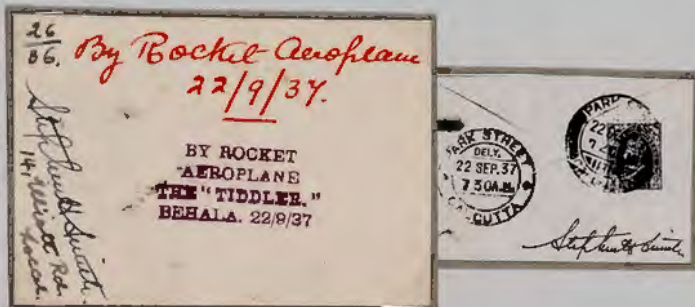


Rocket Mail Experimental Flights by Plane and Train

On 22 September 1937 Smith performed his first experiment with mail transport by a **Rocket-Aeroplane** called "Tiddler". Tiddler was started in Behala, and 36 tiny covers were flown on the rocket-plane to Calcutta.

The 36 tiny covers were prepared with a special rubber cachet referring to the event along with a handwritten note from Smith with total and consecutive number of the flown covers.

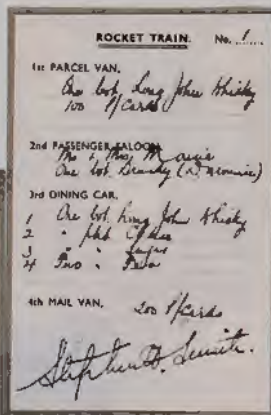
After the successful landing of Tiddler, the mail was brought to the post-office at Calcutta, the nearest place of arrival. The covers are postmarked on reverse side.



On 22 September 1937, Smith launched from Behala, the **first rocket train in the world**, consisting of four compartments combined to one rocket. Each compartment contained a different payload. Besides 300 postcards, the rocket train transported **two mice**, "Mr. and Mrs. Mousie" as well as spirits and food.

The flown Rocketgrams bear both a rocket stamp and cachet referring to the event, as well as the postmark of Calcutta after arrival on 22 September 1937.

List of contents flown by rocket train on reverse side.



MR. STEPHEN H. SMITH,
14, ELLIOTT ROAD,
CALCUTTA.

Rocket Mail Dispatch at All India Scout Jamboree

The rocket mail experiments of Stephan Smith raised the interest in India, and except for some secret firing, the events were open to public. By far the greatest public demonstration with dispatch of postal rockets took place during the **All India Boy Scout Jamboree** near Delhi in the presence of officials, thousands of scouts, and spectators. For these official events special rectangular rocket stamps and cachets were prepared by Smith, and an additional rubberstamp with the name of the rocket, dedicated to a prominent figure.

On 3 February 1937 Smith launched on the occasion of **All India Scout Jamboree** a rocket dedicated to "**Princess Elisabeth**" with 254 covers aboard.



Cover flown on 3 February 1937 by rocket "**Princess Elisabeth**", forwarded by Jamboree post office in Delhi.

Experiments with Postal Rockets during World War II

Smith could continue his rocket experiments also during the World War 2, and among the many trials with postal rockets, he also tested new technologies of propulsion.

On 25 October 1944 Smith launched near Calcutta a rocket equipped with a **gas propelled projectile**, referred to by the cachets. The 14 cards flown on the special propelled rocket have an extra ration attached "**One Unit for 1 pound Bread**".



Official Rocket Mail Experiments in Sikkim

Stephan Smith also experimented with great success in Sikkim under the official patronage of the Maharadja of Sikkim. Besides mail, he also dispatched urgently needed medicine and food with his rockets.

On 10 April 1935 a rocket succeeded in crossing the Ramkhal river with 50 covers and a parcel aboard.
Reverse side of one of the 50 covers flown on 10 April 35 with list of contents of the parcel.

On 28 September 35 a **Livestock** rocket dispatched besides 155 covers, also a **living cock**. It landed safely at Gangtok.

On 1 October 1935 Smith launched from Sir Tashi Namgyal Field a rocket **Chumbi** with 160 covers and a parcel with food, medicine, cigarettes and other items for the British Residency in Gangtok.

The rocket stamps Live Stock and Parcel refer to these events.

BY ROCKET
PARCEL DESPT.

OVER RAMKHALL

Contents of Parcel.

- 1) One bottle of Genasprin
- 2) One bottle of Orinol
- 3) One tube of Phenesein
- 4) One packet of Cigarettes.
- 5) One box of matches.
- 6) One cigar.
- 7) One packet of tea.
- 8) One packet of Sugar.
- 9) One spoon.
- 10) One handkerchief.
- 11) One toothbrush.
- 12) 50 Stamped Messages.

CONTENTS OF ROCKET.

- (1) One *Cock* (a cock)
- (2) 155 such messages

SIKKIM
ROCKETGRAM.
—
BY ROCKET.



FROM TELEGRAPH OFFICE

SIKKIM R. 84

SIKKIM
ROCKETGRAM.
—
BY ROCKET.



CHUMBI.
R. 88.



*Arthur Sumner Toppin,
c/o Mr. Stephen H. Smith,
Gangtok, Sikkim.*

CONTENTS OF ROCKET.

- (1) One tube *Summe*
- (2) " " *Peasant*
- (3) " " *Solome*
- (4) " *Two Butter*
- (5) " *packet Cigarettes*
- (6) *box Matches*
- (7) *Two such Messages*
- (8)

Reverse side of the cover

SIR TASHI NAMGYAL FIELD
20, BRITISH RESIDENCY.
Stephen H. Smith
R. P. R.

*Mr. Stephen H. Smith,
Gangtok
Sikkim*

First Rocket Mail Experiments in the USA

At the beginning of the 1930's, a group of qualified engineers and chemists founded a rocket society in Cleveland, Ohio. In 1935 it was decided to dispatch the first postal rocket. A special cachet was prepared marking the event.

It is not known for sure if this flight took place or not, but burned marks on the reverse side, and the general condition of the cover, point to an explosion.



On 22 September 1935 the **first rocket mail experiment** in the USA was performed by the rocket constructor W.F. Sykora. The rocket, with 250 covers aboard, launched at Airport Holmes, Astoria N.Y., exploded shortly after launch. The flown covers on 22 September 1935 bear a dark blue rocket stamp and cachet referring to the event. Only 28 covers could be recovered from the sea, and a rubber cachet marks the explosion.

One of the 28 flown covers recovered from the sea. All recovered covers were further forwarded by Registered mail.

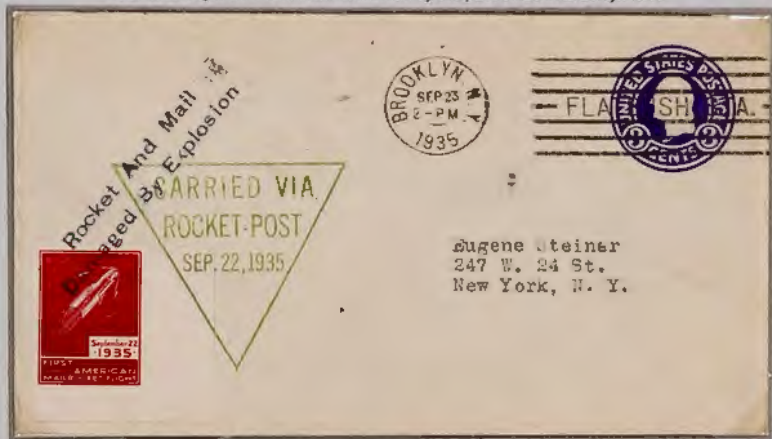


Rocket Mail Experiments in the USA

On 22 September 1935, the same day after the explosion of the first postal rocket, Sykora launched a second rocket with 255 covers aboard which have a red rocket stamp of different design than those of the first flight.

The rocket reached at least a greater distance, but than it also exploded.
This time 198 covers could be recovered from the sea. A rubber cachet marks the explosion.

Flown cover on the 2nd rocket flight on 22 September 1935.
After recovery from sea further forwarded by the post office in Brooklyn N.Y.



At the same time, the rocket constructor W. Russo also performed experiments in the USA.

On 31 January 1936 he launched in Newark, N. J., a "parachute" rocket which carried 980 tiny covers along on this flight.
After a successful flight and a safe arrival, the mail was delivered to the post office in Newark.

The flown covers bear a special rocket stamp and cachet on the front and the postmark from Newark, N. J., on reverse side.



First International Postal Rocket Flight: USA-Mexico

On 2 July 1936, the first international Rocket mail experiments took place between McAllen, Texas and Reynosa, Mexico. Special covers, rocket stamps and cachets refer to this event

Five rockets with 1,500 small silkpaper covers divided among them, were launched from McAllen, Texas. 278 covers were scattered over the river when one rocket exploded.

One of the rockets failed to reach its target and landed in a Mexican tavern. Its 150 recovered covers were confiscated by the Mexican government.

The remaining three rockets reached the planned target area, and the 1,072 flown covers were postmarked at the post office of Reynosa, Mexico after their arrival on 3 July 1936.

Cover flown from USA to Mexico on 2 July 1936.



At the same time, 1,500 covers were dispatched on five rockets in the opposite direction, that is, from Reynosa, Mexico to McAllen, Texas. Two rockets exploded during the flight and the 578 transported covers were lost in the river.

The 922 covers from the other three rockets were cancelled at the post office in McAllen on 2 July 1936 at 8:00 PM.

Cover flown from Mexico to USA on 2 July 1936.



20th Anniversary of Rocket Mail Flight Mexico-USA

On 2 July 1956, the 20th Anniversary of the First International Rocket Mail Flight between the USA and Mexico, a rocket was launched at Reynosa, Mexico to McAllen, Texas, with 150 of the covers aboard which had been confiscated by the Mexican customs after the 1936 crash landing of the rocket.

An additional cachet with detailed description to this event was applied to the flown cover

Cover flown by rocket on 2 July 1956
with signatures of the official representatives
responsible for the rocket flight at both events.



Rocket Mail Experiments in Australia

The first postal rocket experiment in Australia was organized by the Queensland Air Mail Society of Brisbane with its president, Alan H. Young, in charge of all rocket mail tests.

The first start was planned on 4 December 1934 to commemorate the arrival of the Duke of Gloucester in Brisbane, but had to be postponed until next day due to the delay in arrival of the ship SS Canonbar where the rocket launch took place. 897 special prepared covers were flown on 5 December 1934 to Brisbane and posted at the Pinkeneba post office at 2.30 P.M.



On 28 October 1935, on the occasion of the Silver Jubilee of King George the V, it was planned that a postal rocket, "Orion", cross the Brisbane river with Anniversary Greetings. They were printed on silkpaper in a special cover prepared for this event. The rocket failed, and the mail was damaged by water. This is marked by a rubber cachet and a new launch date postponed to 24 February 1936. The prepared 400 covers, with delayed Anniversary Greetings, were successfully flown by rocket and posted at post office in Brisbane.



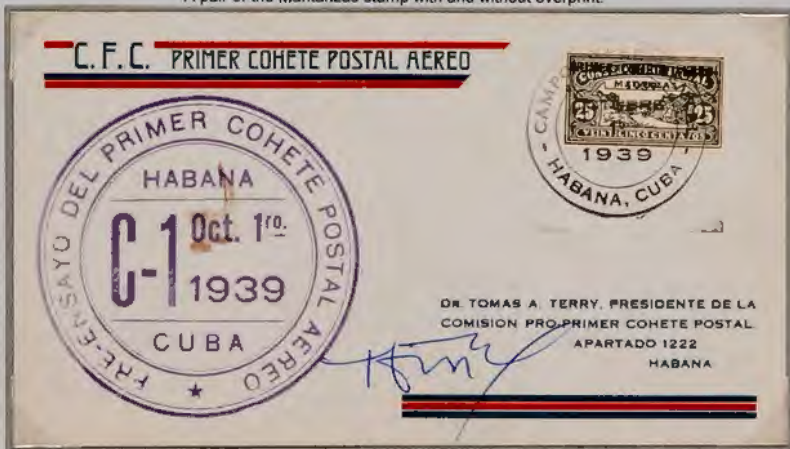
Precursors to the First Official Cuban Postal Rocket

A series of three test flights preceded the first official Rocket Mail flight in Cuba.

On 1 October 1939 a successful test flight of a rocket C-1 took place from a camp near Havana conducted by Dr. Terry. 60 specially prepared covers franked with a grey private stamp of Mantanzas with overprint "First Rocket Flight" were carried on the experimental flight by rocket C-1.



A pair of the Mantanzas stamp with and without overprint.



Cover flown on the first trial with C-1 rocket on 1 October 1939

The second test flight with the C-1 rocket followed on 3 October 1939.

For this, and the third experimental flight, special 25c rocket stamps were prepared, and the same cachets used with a change of date. 21 covers were flown by rocket C-1 on this second experimental flight.



The World's First Official Rocket Mail Flight in Cuba



To commemorate the **First official Rocket Mail Flight**, the Cuban postal administration issued an official stamp for the event.

This **First official rocket stamp of the world** shows a black overprint "Experimento del COHETE POSTAL ano de 1939" on a green 10 centavo air mail stamp.

On 8 October 1939 the last test flight with rocket C-1 took place. All three test flights were successful 16 covers were carried by rocket on this flight.

Only a few of the flown covers were postmarked by the post office in Havana - 8 Oct 1939.

On 15 October 1939, the launch of the **First Official Postal Rocket "C-1 Marilyn"** was made.

The experiment was undertaken by Dr. Thomas Terry and E. Funes with financial support from the post administrations.

1000 official first day flight covers were prepared and a special rubber cachet applied for the rocket mail event.

Although this official postal rocket flight was of mixed results, it became Cuba's greatest philatelic event.



Official Rocket mail of Cuba with the first rocket postage stamp postmarked on date of the event, 15 October 1939.

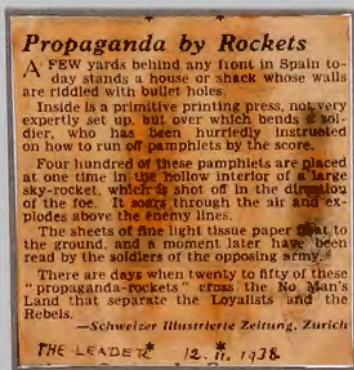


Rocket Leaflets of the Spanish Civil War 1936-39

For the first time rockets were used to fire Propaganda leaflets over the lines into the enemy camp.

The rockets managed a distance of ca. 2 ¼ km and each carried up to 400 front-printed leaflets of silkpaper.

"The Leader" Press report of 12 February 1938



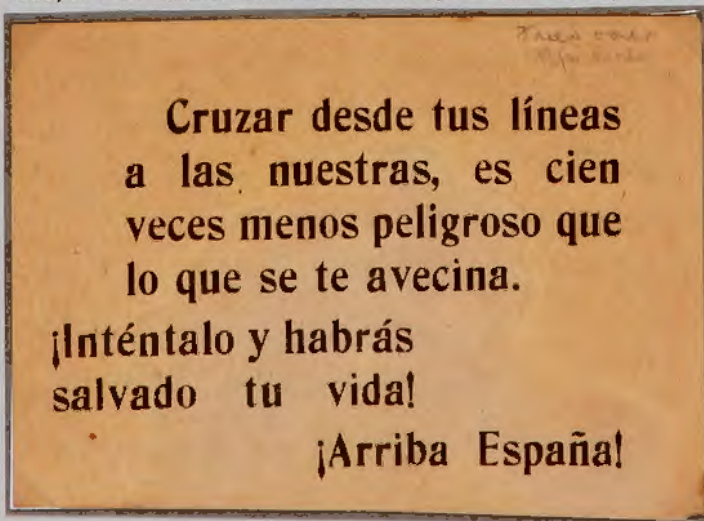
Text of the rocket leaflet fired over the Republic lines:

"By crossing over your lines to ours is a hundred times less dangerous as that which will come upon you.

Give it a try, and you will have saved your life!

!Long live Spain!"

Merely all of these "surrender" leaflets are lost since their possession was severely punished.



Rocket Plane Experiments in the 1930's

In the early 30's the interest in rocket plane development arose when the German, **Fritz von Opel**, together with Max Valier, an important rocket constructor of the 20's, experimented with cars, sleds, and glider-planes using solid propellant engines. Valier stood for the idea of the conquest of space by space glider.

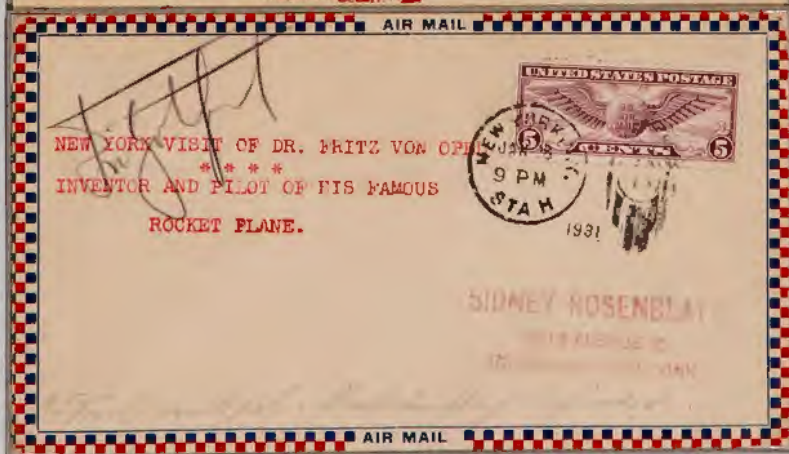
On 30 September 1929 **Fritz von Opel** succeeded as pilot of a rocket plane, **Opel-Sander-Rak 1**, constructed by Hattr, in performing the first flight by thrust of 6 Sander rockets.

This flight also raised interest in the USA, and on 28 January 1931, von Opel accepted an invitation to visit New York. Cover signed by Fritz v. Opel.

On 1 July 1931 a group of young men started an adventure to launch a rocket plane from Struthers, Ohio, to Poland ,Ohio, and back.

The covers prepared to this event bear the post mark from the launch place of Struthers, Ohio, Jul 1 1931 12.30 PM. The flown covers have an additional rubber cachet from Poland, Ohio, place of arrival, (Number of flown covers not known.)

launch place of Struthers, Ohio, Jul 1 1931 12.30 PM, referring to the crash landing, and the postmark Jul 1 1931 4 PM on reverse side.



Early Rocket plane Experiments in the USA

On 30 April 1932 at a second experimental rocket plane flight planned from Struthers to Akron in Ohio, the plane crashed near Poland, Ohio.

30 flown covers specially prepared for this event bear a rocket stamp "Miniature Airways 35c Air Fee" and postmarks from Struthers, Ohio April 30 1932, 2 PM.

Flown covers have a rubber cachet marking the crash landing and postmark from Poland, Ohio April 30 1932, 4 PM on reverse side.



On 23 February 1936 the **First American Rocket plane Flight** for the transport of mail took place, conducted by the rocket inventor Dr. Willy Ley.

Two small experimental radio-controlled rocket planes carried 4,320 covers and 1,823 cards on a flight from Greenwood Lake, NY, to Hewitt, NY. The first flight with 1/3 of the mail failed.

The second rocket plane had a successful flight of over 60 km (37 miles) and landed in Hewitt, where the mail was further forwarded.

The flown card on the second rocket plane sent on 23 Feb. 1936 from the Hewitt post office arrived on 24 Feb. 36 in Washington D.C.

Only three flown items exist with a bloc of four of the rocket stamps



Cover signed
by Willy Ley.

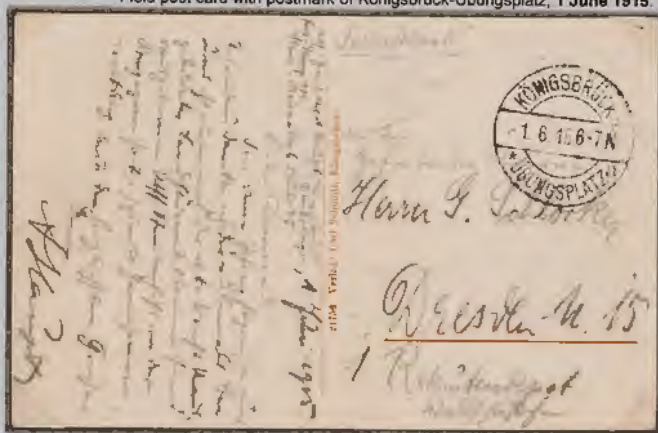
The Development of the First Solid Propellant Rockets in the 1. World War 1914-18

Solid propellant rockets of amazing dimension, equipped with a **rocket-camera**, were already in function in Germany during the **1. World War**. Their purpose was to explore enemy emplacements and to safe costs and expenditure on personnel. They flew much higher than using airplanes or balloons.

The launches took place from a mobile launching platform at a military training camp (Übungsplatz) in Königsbrück, Germany

Field post card with postmark of Königsbrück-Übungsplatz, 1 June 1915

Sender:
Soldier of the Regiment,
A. Haupt, Königsbrück,
Füsilier (marksman)
Company 101 new camp, shack 6.



Rocket with full
equipment at the
launching platform.

Only two operators were necessary for the launch procedure.

The solid propellant rocket of 6 meter (6 1/2 yard) length and 42 kg (93 lb) weight reached a height of 800 meter (1/2 mile) within 8 sec., with the "rocket-camera" and also a parachute in its nosecone.

Before reaching the greatest height the camera automatically took photos of the area, and after that, the capsule with the camera was ejected from the rocket by ignition. The parachute was released simultaneously. The rocket-camera made a soft landing and was ready for further daily use.

The "rocket-camera" was developed by Alfred Maul at the beginning of the 19th century. Today it is displayed in the German Museum in Munich.

Photos from the German Museum in Munich



Nose-cone with Maul's rocket camera

Dr. Dornberger, responsible for the development of the rocket V2, was chief of the military proving ground at Peenemünde, and was also, until 1939, the commanding officer at Königsbrück. He made a considerable contribution to the development of the solid propellant rockets



Development of the Space Rocket A4/V2

In 1937, at the fishing village of **Peenemünde** on the island Usedom in Germany, a rocket test site was established for the secret development of the **Aggregate 4 (A4)** rocket, later called the **V2**.

The staff of German rocket engineers, who first worked at Kummersdorf, continued their research work for military service at the "Heeresanstalt" in Peenemünde.

The interval between the date of the urgent order for replacement parts for a rocket compressor from "Heeresanstalt" Peenemünde to a contracting firm dated 11 September 1942, and the date of the incoming orders, 13 October 1942, marks the birth period of space flight.

On 3 October 1942 space was reached for the first time by the **A4/V2** giant rocket, achieving a height of 90 km and a distance of 200 km by a speed of Mach 5.

reverse side

Az. 72p/24 HAF/VA/222 Peenemünde, 11.9.42

Vorgang: Auftrag Nr. SS 030-3455/42 EBlg.
Ihr Zeichen: Ku/H5
Betreff: Ersatzteile für Kompressor Nr. 3411 usw.

Der Auftrag ist teilweise ~~noch nicht~~ ausgeliefert. Das Material wird für kriegswichtige Fertigungen dringend benötigt. Sofortiger Versand bzw. Angabe des frühesten Liefertermins erbeten.

K.A.M.M.

Im Auftrage .

Wegmann

HAF 104

**Heeresanstalt
Peenemünde**

Peenemünde a. Usedom
Fernruf: Peenemünde 262

Firma
Demag A.G.
D u i s b u r g . . .

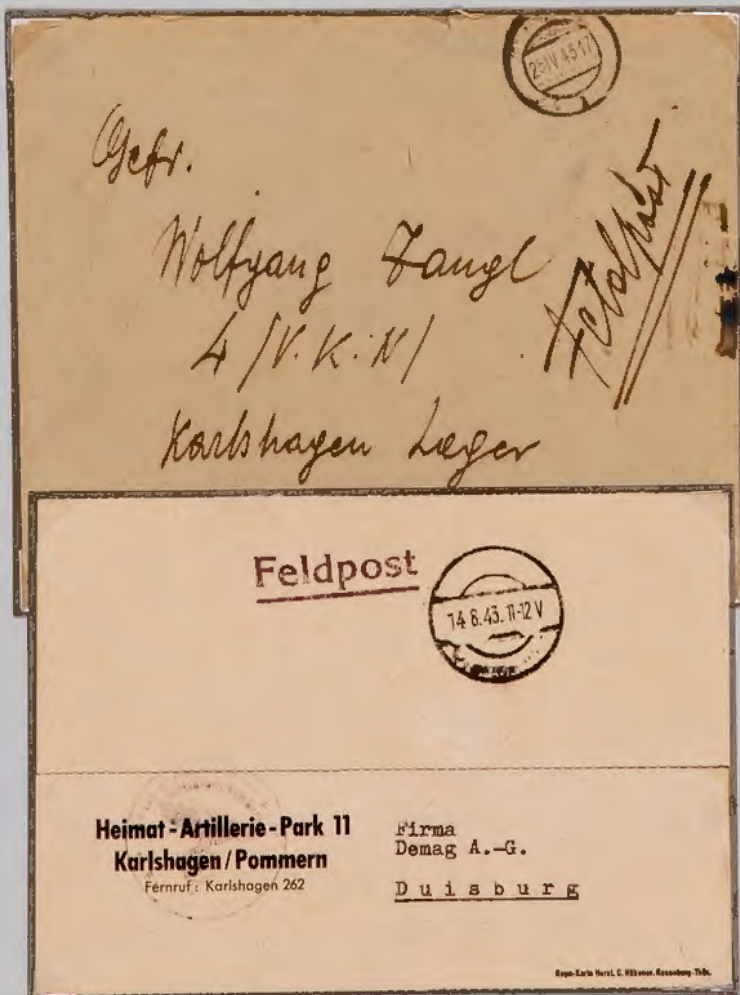
Development of the Space Rocket A4/V2

From 1943 onwards, especially after the severe bombardment of Peenemünde on 17-18 August 1943, security was increased through the use of "dumb" postmarks. Peenemünde- "Karshagen" and "Heeresanstalt"- were renamed "Heimat Artillerie Park 11" and "Versuchskommando Nord" (VKN).

Ing. Zangl was one of the leading engineers for the construction of rocket engines and belonged to von Braun's staff. After the war he was recruited to France to organize a rocket research centre in the Normandy where he contributed to the French rocketry.

Letter addressed to Gefr. Zangl with secret code of v. Braun's staff 4th VKN, Karlshagen Lager (Peenemünde)

Blind date stamp of 14. 8. 43 on a card from "Heimat-Artillere Park 11" , secret code for V2 industry in Peenemünde



Development of the Space Rocket A4/V2

On 31 July 1943 an urgent instruction was sent from Heimat Artillerie-Park 11-Karlsghagen, to the Demag A-G Hamburg 1, that

according to a decree of the Reichsminister of the Military Department dated 2 June 43, the order Nr. SS-0028-0366/43 of 19 May 43

High pressure - piston compressor H3 S 8/200-20 obtains the Decree of urgency

DE 12 (A 4) = Aggregate 4 stays for V2.

Received by Demag AG on 18 August 1943, the same date as the bombardment of Peenemünde.

The Demag AG in Hamburg was the main supplier of finished parts for the V2.

162839 23.AUG.43 ym
31. Juli 1943

Heimat-Artillerie-Park 11-VW
Karlsghagen/Pommern, den
Fernsprecher: Karlsghagen 362, Hausapparat 120

Az.: 65a - U2-274 VW/TAAN-B
Bb. Nr.: 14088 P. 43 Ab/Hr
(Bitte in der Antwort vorstehendes Geschäftszeichen, den Tag und
den Inhalt angeben)

13a
13b
13c

A.K.V. - 150823/1

Eingegangen
18. AUG. 1943
Beantw.:

Firma
Demag A.-G.
Hamburg 1

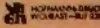

Gemäß Verfügung des Reichsministers für Bewaffung und Munition vom 2. 6. 43 erhält der Ihnen erteilte Auftrag Nr. SS-0028-0366/43 vom 19. 5. 43, Ihre Auftrags-Nr. über (Gegenstand): Hochdruck-Kolbenkompressor H3 S 8/200-20 die Dringlichkeitsstufe **DE 12 (A 4).**

Schwierigkeiten, welche die termingerechte Erledigung des Auftrages gefährden, haben Sie sofort unter Vorlage dieser Dringlichkeitsbescheinigung der zuständigen Rü N mitzuteilen und Abschrift der Mitteilung nach hier einzusenden.

Sie sind berechtigt und verpflichtet, Unteraufträge für Gegenstände, die unmittelbar oder in entsprechend weiter verarbeiteter Form als Bestandteil in die in den Aufträgen enthaltenen Geräte usw. eingehen, gegenüber Ihren Unterlieferern entsprechend zu bestätigen. Sie dürfen Unterlieferern gegenüber keine größeren Mengen fordern und keine kürzeren Liefertermine setzen, als zur Durchführung Ihrer Produktionsaufgabe unbedingt erforderlich ist.

Im Auftrag
Mann

Ablagen
BE



The Development of the Space Rocket A4/V2

After the bombardment of Peenemünde in August 1943, the construction of the V2 was moved to an adit near Nordhausen. Prisoners of war, mainly technicians, were recruited as workers in the V2 industry and housed at Dora, a nearby camp. Mail from this top secret place was postmarked at Sangerhausen and the "Dora" address was indicated by a "D". All mail was controlled by military.

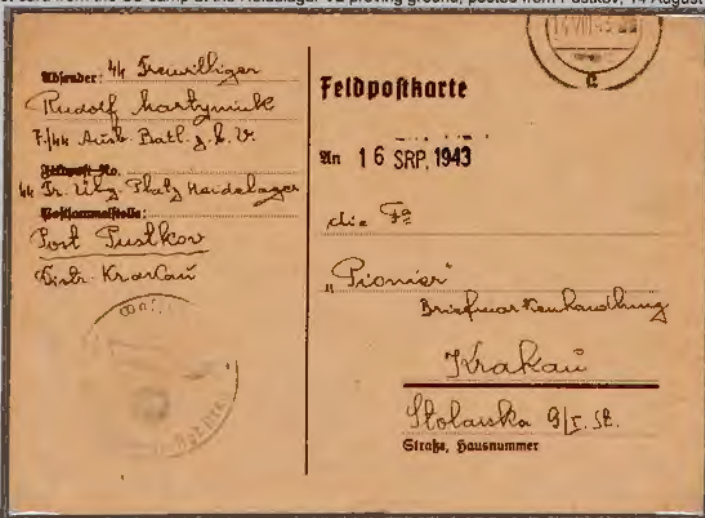
Postcard from prisoner Nr. 16158, Dora ("D"), the camp for the manpower used for the V2 industry at Nordhausen, postmarked at Sangerhausen, 12 October 1943.



In September 1943 a military training area (SS Truppenübungs Platz, abbreviated "SS Tr. Ubg. Platz" in the address) was established where a battalion of SS volunteers "for special employment" (= z.b.V., zur besonderen Verwendung) was trained for testing the V2.

The secret name of this area was "Heidelager", and mail was postmarked at Pustkov using blind postmarks.

Field post card from the SS camp at the Heidelager V2 proving ground, posted from Pustkov, 14 August 1943.



Experimental V 2 Rocket Flights at White Sands, New Mexico

In the years 1946-47, Wernher von Braun and his staff launched several modified V2 rockets at the U.S. Army proving grounds at White Sands near Las Cruces, New Mexico. These V2 rockets were modified for scientific purposes and carried various instruments for the research of cosmic rays and the upper atmosphere, as well as on animals for biological tests in space.

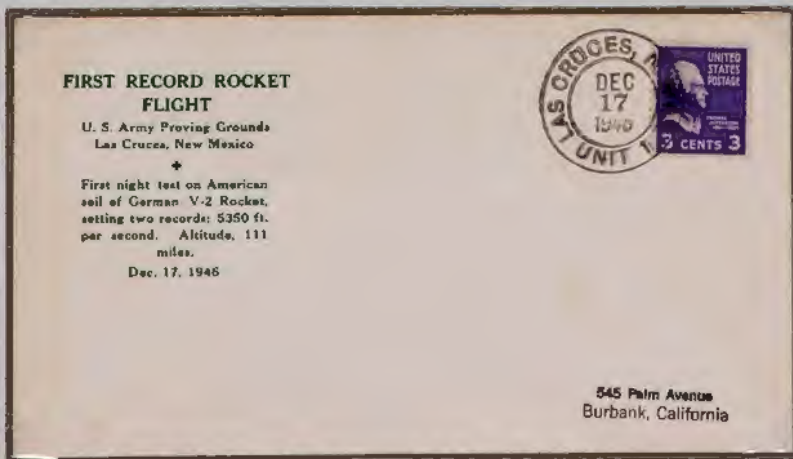
For commemorating these events, the essays of the rocket stamps, prepared for the First Rocket Mail flight in the USA on 22 Sept. 35, in lighter blue and also in red, but rejected and not used on the flown covers, where reprinted in sheets of four from each rocket stamp with different V2 overprint:



V-2 Las Cruces, N.M. 1946 and V-2 Las Cruces, N.M. 1947 with other design of V-2.
Signature of Wernher von Braun

On 17 December 1946 von Braun achieved the **First Night flight of a V2 rocket** at the U.S. Army proving grounds near Las Cruces.

Cover with special note referring to the event postmarked at Las Cruces with the date of first night flight of the V2 on 17 December 1946



The Development of Space Rockets in the USA

From 1946 onwards in the desert of New Mexico
began a new era of rocket development in the USA.

Various rocket types for different purpose were developed.

The **Nike** was the first missile, from origin developed by the United States in the 1940's.

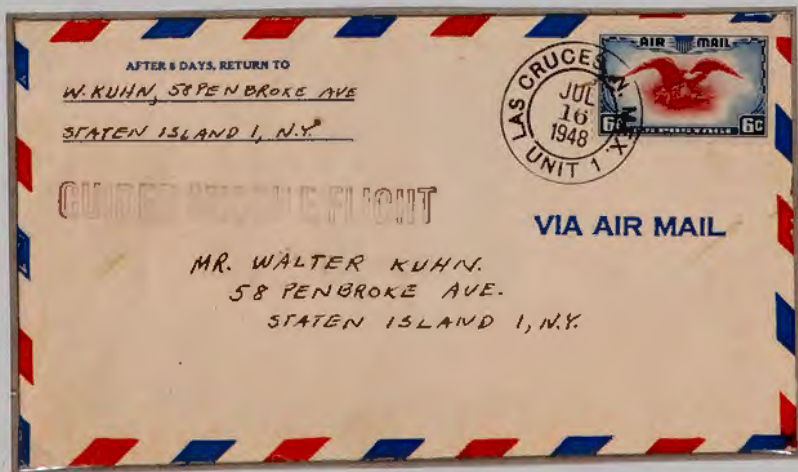
This two and three stage rocket served preliminary for military purpose,
but **Nike** rockets were also used for research of the upper atmosphere.

On 16 July 1948 a **Nike R18**, radio-controlled, guided missile was launched from the test site at White Sands.

The launch was successful, but before reaching the scheduled distance, the rocket exploded and crashed.
The recovered mail was brought to the post office in Las Cruces for further dispatch.

A few covers were carried aboard on the **Nike R18** guided missile flight of 16 July 1948.

Flown cover on **Nike R18**, damaged when the rocket exploded and crashed.

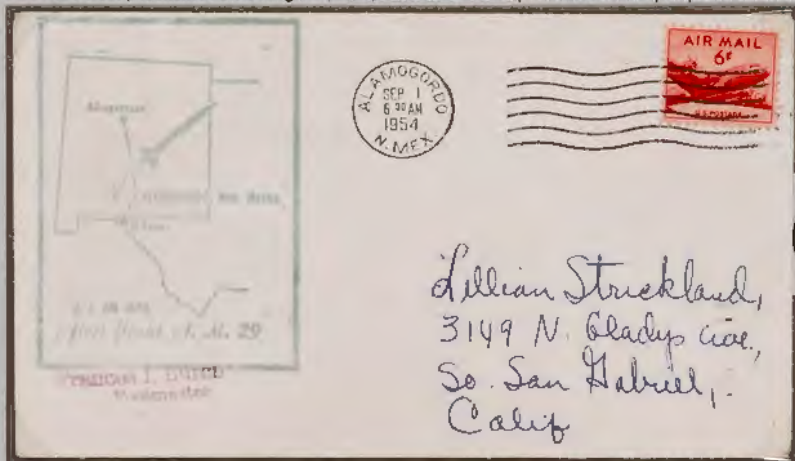


The Development of Space Rockets in the USA

From 1952 onwards the Holloman Air Development Centre started with rocket experiments at the Holloman Air Force Base near Alomogordo, New Mexico.

On September 1954 the first experimental flight of an **A.M.29 rocket** took place from Alomogordo to Albuquerque, New Mexico.

The flown covers are postmarked at Alomogordo, N.M., and after arrival at post office of Albuquerque on reverse side.



A research rocket, developed in 1947 to study the upper atmosphere, became essential improved and was in the beginning of the 1950's capable for reaching a height of 160 km (100 miles).

These "Aerobee-Hi" rockets were used at Holloman Air Development Centre for scientific and medical research.

In 1955 a bio-experiment with monkeys and mice was undertaken with an **Aerobee-Hi** rocket to test the influence of weightlessness.

Lt. Col. Clifton Butler, chief of the scientific laboratory in Holloman, was responsible for an early **Aerobee-Hi** experiment on 3 November 1955.



Bio-Rocket Experiments in the USA

Also the "Naval Research Laboratory-NRL-" of the Navy, experimented with Aerobee-HI rockets for scientific research.

In 1956 three test flights took place. The first test flight on 1 May 1956 failed.

On 8 May 1956 the US Navy launched successful at White Sands Proving Grounds near Las Cruces N.M. an **Aerobee-HI** rocket **NRL-42** which reached a height of 190 km (118 miles).

The cover was posted, after achieved flight, at Las Cruces on 8 May 1956 at 6:30 PM.



The results of the Bio-research flights with **Aerobee-HI** rockets were analyzed, in regard to manned space flights, by Major David Simons, who was the Chief of the Space Biology Laboratory at the Aero Medical Field Laboratory of the US Air Force in Alamogordo.

On 14 Nov. 1956 an **Aerobee-HI** bio-rocket was launched from White Sands near Las Cruces.



Early Experimental Rocket plane flights

The **XF-91**, an early rocket assisted plane, developed by the Republic Aviation Corporation for the US Air Force, had only a turbojet engine. To reach the necessary thrust for supersonic speed it was equipped by Reaction Motors with another reaction engine of 2,750 kg. The **XF-91** started from the ground.

Cover flown by **A. Bellinger**, chief test pilot of the Republic Aviation Corporation, on an early experimental flight of the **XF-91** rocket assisted plane from Muroc Air Force Base (later Edwards AFB) on 5 May 1949.



An experimental rocket plane "Skyrocket", conceived as "chemical-electronic research laboratory", was developed by Douglas Aircraft Company for the US Marine.

A turbojet plane "Skystreak" D-558-1 was re-built with both, a turbojet and 4 liquid propellant rocket engines from Reaction Motors and renamed "Skyrocket" D-558-2. Three Skyrockets were produced, and a total of 11 test flights were realized.

On 27 Nov. 1950 Douglas pilot **Bill Bridgman** tested a **Skyrocket D-558-2** at Edwards AFB. After air launch from a carrier plane B-29 at 35,000 ft (10,5 km) and ignition of the rocket engines he reached a record altitude of 72,400 ft (22 km) and a speed of 1.65 Mach.

Cover of a few flown on **Skyrocket** on 27 Nov. 1950 and posted days later at Mojave, Calif.



Experimental Rocket plane Flights in the USA

In the 1950's, pilots risked their lives over the Mojave Desert in experimental rocket planes to obtain data on high gravity pressure and high speed atmospheric re-entry effects on humans. The "X" rocket planes of the US Air Force, developed by the Bell Air Force Corporation, were regarded as top secret, but the pilots did carry a few covers on the early flights to record these historical events.

The US rocket plane **Bell X 1** was the first that reached supersonic speed in 1947. The pilot of this historical flight was **Charles Yeager**.

On 17 February 1954 an experimental flight with the new and much more powerful rocket plane **Bell X 1A** took place. After air launch from a B-50 carrier plane and ignition of the rocket engine, **Bell X1A** reached a height of 85,800 ft (26,000 m) and 2.3 Mach speed.

Cover recording the rocket plane flight of **Charles Yeager** with **Bell X 1A** from Edwards AFB on 17 February 1954.

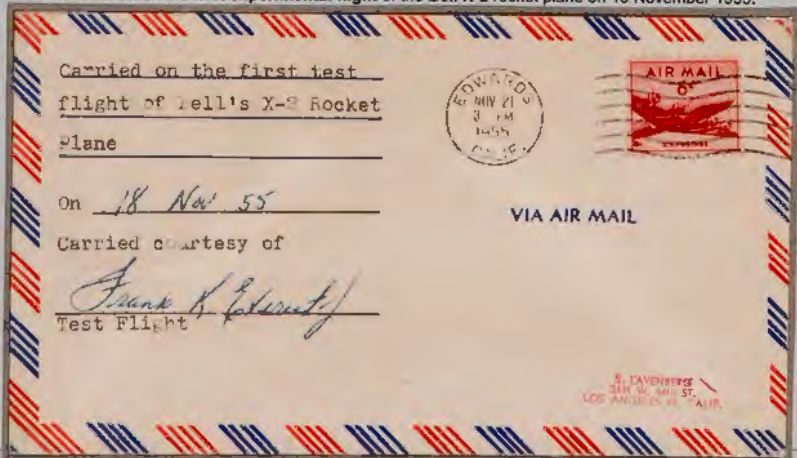


On 8 August 1955 the **Bell X-1A** exploded seconds before release from the carrier plane.

The improved **Bell X-2** rocket plane set a new peak altitude of 126,000 ft (38,300 m) and a record speed of 2.8 Mach.

On 18 November 1955, the US Air Force test pilot, Colonel Frank Everest, made the first successful powered **X-2** flight from Edwards Air Force Base exceeding Mach 2.5.

Cover flown on the first experimental flight of the **Bell X-2** rocket plane on 18 November 1955.



Experimental Rocket plane Flights in France

In the 1950's the development of rocket planes was also in progress in France.
Test flights took place in Melun and from Istres, the French Navy Base.

On 12 September 1956 pilot P.J. Maulandi accomplished a test flight to Istres on the **rocket plane S.E. 212**.

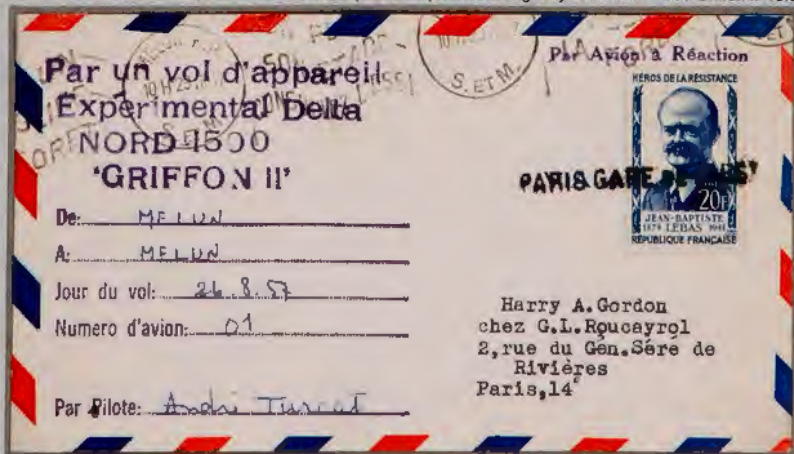
The flown cover bears the postmark of Istres 14-9 1956, a rubber cachet "Experimental flight by Rocket plane S.E.212 Durandal"
Special registration: To: Istres, Date of flight: 12.9.56, Number of plane: 01, By courtesy of: signed by Pierre J. Maulandi, test pilot.



Test flights with the "Griffon II" experimental rocket plane belong to an essential part of rocket plane evolution in France.
André Turcat was one of the prominent test pilots in the early period of rocket plane developments.

Cover flown on 26 Aug. 57 from Melun to Melun on Griffon II by pilot André Turcat, after arrival posted at Melun to Paris.

The rubber cachets "By Rocket Plane (Par Avion à Réaction)" and "Experimental flight by Delta Nord 1500 Griffon II" refer to the event.



International Astronautic Congresses

For the first International Astronautic Congress on 30 Sept. 1950 in Paris, special vignettes with a rocket design were prepared, and a special cancellation of the French post refers to this event

The Austrian rocketeer, Ing. Schmiedel, intended to transmit mail by rockets, but it was prohibited by the French postal authorities



At the 7th International Astronautic Congress in 1956 in Rome, engineers and scientists had the opportunity to co-ordinate their plans for the International Geophysical Year 1957/58.

It became an enterprise of research with more than 60,000 scientists and technicians from 66 nations.

The Italian postage stamp, issued for this event, depicts the view of a satellite orbiting the earth.



The International Geophysical Year 1957/58

The International Geophysical Year began on 1 July 1957 and ended on 31 December 1958.
It was the most significant, peaceful cooperation of mankind since the Renaissance.

The main subjects of the IGY were, besides the research of the deep sea and the Antarctic, (not dealt with here), the exploration of the stratosphere, ionosphere, meteorology and the realization of an artificial satellite.

EERSTE
DAG
VAN
UITGIFTE

FIRST
DAY
OF
ISSUE



A. G. Mad...
p.v. 128
Amcao

The Soviet Union announced already in 1956, at the International Aeronautic Congress, the launch of a satellite in the IGY.
Official cover of the International Geophysical Year Committee of the Soviet Union with IGY emblem and rubber cachet.



PAR AVION

herr Gunter Dietzel,
Basselorf-Liler,
Waagenstrasse 19,
Deutsche Bundesrepublik.

Pr2
D. Dietzel
G. Dietzel



МЕЖДУВЕДОМСТВЕННЫЙ КОМИТЕТ ПО
ПРОВЕДЕНИЮ МЕЖДУНАРОДНОГО
ГЕОФИЗИЧЕСКОГО ГОДА

Москва В-296,
Молодежная, 3

SOVIET COMMITTEE FOR THE
INTERNATIONAL GEOPHYSICAL YEAR

Molodezhnaya, 3,
Moscow В-296, U.S.S.R.

МЕЖДУНАРОДНОГО

The International Geophysical Year 1957/58

The space arena was opened during the International Geophysical Year 1957-58 by the Soviet Union

on 4 October 1957
with the launch of the first artificial earth satellite

Sputnik 1.

Sputnik 1 had a globular shape of 58 cm Ø and weighed 83.6 kg.



Sputnik 1

After 1,367 earth orbits
in 496 min. at time
it burned up in the
earth's atmosphere
on 4 January 1958.



Already on 9 July 1957, before the top secret launch of Sputnik 1, a slogan cancellation applied by the German post for an exhibition "Unlimited Space" in Essen, exactly depicts the shape of Sputnik 1.

provided information on the highest layer of the earth's atmosphere.

The data were evaluated and publicized by Prof. Albert of the Moscow University

Registered letter from Winnitza records the launch date of **Sputnik 1** by postmark 4 10 57 12 AM



Konstantin E Tsiolkovsky

born 1857

died 1935

1st issue 1957 in light brown



date of issue 1951

2nd issue 1957 in dark brown



For the 100th Anniversary of Konstantin Tsiolkovsky, the famous Russian rocket researcher, the Soviet Union issued a stamp with overprint:

"4. 10. 57": 1st artificial satellite of the world

Tsiolkovsky, called "Father of space flight", began in 1885 his profound scientific research work for future space flight.

He developed a rocket model with a liquid propellant engine and the principle of a stage rocket.



Variety of
points over Saturn



The International Geophysical Year 1957/58

The first U.S. satellite **Explorer 1** was successfully launched from Cape Canaveral, Florida, on 31 January 1958 at 10:48 PM under the direction of the German rocket engineer Wernher von Braun.

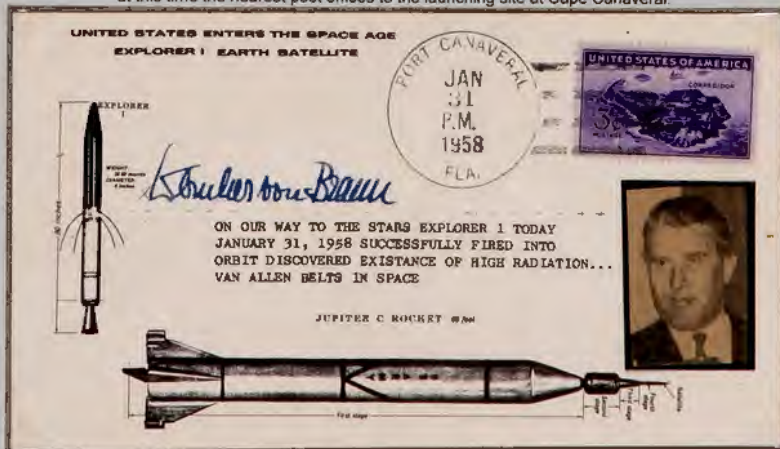
To get aboard the Race to Space, von Braun developed, in three month's time, **Explorer 1**, by modifying a Redstone rocket.



The four stage rocket of cylindrical shape, 14 kg weight, 17 cm \varnothing and 203 m length, orbited the earth at a height of 364 to 2,520 km in 115 minutes time.

Explorer 1 discovered the high radiation Van Allan Belts in space.

Explorer 1 launch date covers with postmark of Patrick Air Force Base and Port Canaveral, at this time the nearest post offices to the launching site at Cape Canaveral.



Signature of Wernher von Braun

The International Geophysical Year 1957/58

On 17 March 1958, after 2 failures, the USA booked another success with the launch of **Vanguard 1**, developed by the U S Navy.

Vanguard 1 was of globular shape, 1,5 kg weight, and 16 cm Ø.
It orbited the earth at height of 651 to 4,000 km and with a speed of 30,000 km/h.

Vanguard 1 is still transmitting data on earth and space radiation.

Cover postmarked at place and with date of the launch of **Vanguard 1** on 17 March 1958.



On 23 March 1958 the USA started the first bio-experiment "**Minnie Mouse**" with the launch of a **Thor-Able 1** rocket for research of interplanetary space.

In the nosecone was the mouse "**Mia**". The re-entry failed due to a break-down of the igniton.

Cover postmarked at Patrick AFB for recording the launch of **Thor-Able 1** on 23 March 1958



"Rockoon" and "Man-High" Balloon Flights of the USA

In the 1950's strato-balloons played a significant role in scientific projects by using "Skyhook" plastic strato-balloons constructed by Otto Winzen to reach extreme heights, up to the threshold of space, on unmanned and manned strato-balloon scientific research flights. At a special van Allen project "Rockoon", a research rocket "Deacon", was fired from a Skyhook-balloon at a height of 30 km (18.5 miles) to achieve greater altitude when launched outside the earth's atmosphere, a principle already practiced in 1928 by Ing. Schmiedl.

On 2 April 1957 a Skyhook-strato-balloon ascended from Minneapolis for a Rockoon experiment.

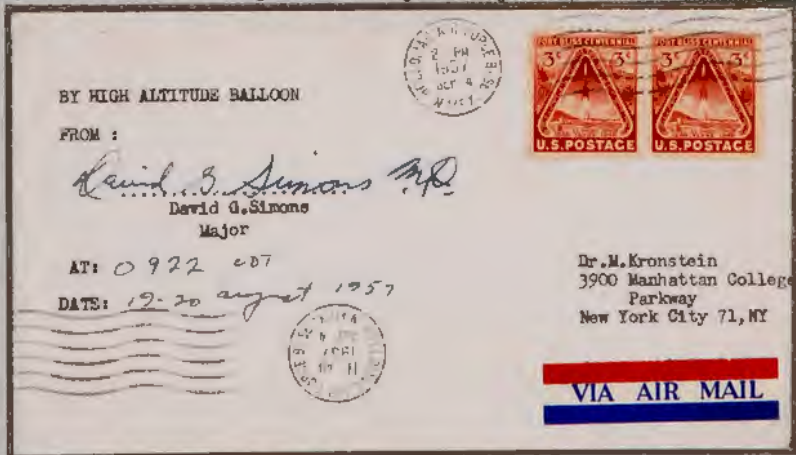


The top secret USA project of the IGY 1957-1958 was MISS, the secret code for "Man in Space Soonest". Both the U.S. Air Force and the U.S. Navy had major roles, the Air Force with the "Man High" balloon and the Navy with the "Strato-Lab" scientific and medical manned strato-balloon flights. The physiological and mental data of the pilots were important in preparing for manned space flight.

Major David G. Simons, chief of the Space Biology Laboratory Center at Holloman, N. M., made a medical self-experiment with the "Man High" balloon when he had himself sealed into the narrow pressurized gondola to experience "inescapability" during space flight.

On 19 August 1957 he ascended to 102,000 ft (31,000 m), where he remained for 32 hours confined in his capsule.

Cover flown by David Simons on the "Man High" strato-balloon flight 19-20 August 1957, returned from the home base of the balloon.



USA project Man in Space Soonest

The "Strato-Lab" flights by the U.S. Navy were made primarily by Commander **Malcolm D. Ross**, accompanied by scientists.

On 18 October 1957 Commander Malcolm D. Ross and Morton L. Lewis ascended from Crosby, Minnesota, with a "Strato-Lab" balloon for a research flight to a height of 85,800 ft (25,850 m).

Cover flown by Commander Ross and Lewis on the "Strato Lab" balloon research flight on 18 October 1957.

According to a covering letter of Commander M. Ross, the flight was performed "top secret" without pre-release of the flight schedule. Hence, this cover was the **only one** received to carry aloft.

Dear Dr. Kronstein

29 October 1957
OHR:441
Washington, D.C.

Please accept my apologies for the delay in returning this cover to you. It may be of further interest for you to know that Commander Lewis and I had carried a fair number of covers on previous flights. In view of our policy of no pre-release of plans for these flights, however, yours was the only one received.

In addition to some excellent data acquired on our trip, from a research viewpoint, we also went higher than any other two men now has ever gone. On our Wallace and Tiemann instrument we read a speed of about 95,200 feet. The radio beacon transmitted code which indicated 94,200 feet. I will take a check of calibration curves to determine the actual altitude.

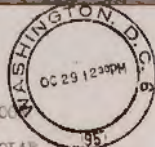
Sincerely
Malcolm D. Ross

FROM THE HIGH ALTITUDE BALLOON
FLIGHT OF THE PROJECT STRATOLAB
CROSBY, MINNESOTA
STARTING FROM SOUTH DAKOTA.

Malcolm D. Ross
Pilot LCDR USNR

Date: 18 OCTOBER 1957

AT;



Dr. M. Kronstein
3900 Manhattan College
Parkway
New York City 71

"Strato-Lab" and "Man High" Balloon Research flights

On 26 July 1958 M. Ross and Lee Lewis ascended from Crosby, Minnesota, for the third **Strato-Lab** research flight. They remained at 82,000 feet (25,000 m) for over 34 hours. During the flight they gathered a number of scientific and medical data for future manned space flights. They landed near Jamestown, North Dakota, on 27 July.

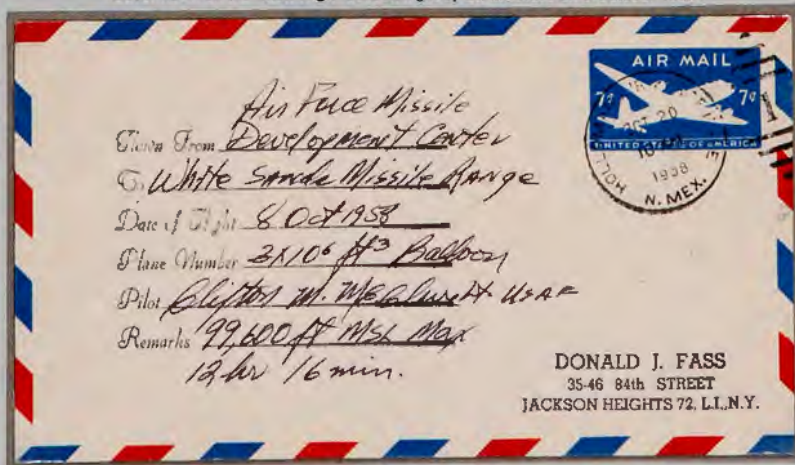
Cover carried along by Malcolm Ross on **Strato-Lab** flight No. 3 on 26-27 July 1958.



On 8 October 1958, the young USAF Lt. **Clifton McClure**, ascended from Holloman, N.M., for a medical research flight with a "Man-High" balloon.

After 12 hours remaining at a height of up to 99,600 feet (30,300 m), the flight was aborted due to overheating in the gondola and 40°C body-heat of Lt. Clifton McClure.

Cover flown on the "Man High" balloon flight by Lt. McClure on 8 October 1958.



The International Geophysical Year 1957/58

On 21 February 1958 a high altitude research **rocket A 3**, a top secret program of the Soviet Union reached with a weight of 1,520 kg a record height of 473 km.

For the first time the **A 3 rocket** was fully stabilized during the whole flight.
Registered letter postmarked at Riga 21-2-58 commemorating this top secret event



On 15 May 1958 the Soviet Union launched **Sputnik 3** with a weight of 1,327 kg and an altitude of 1,880 km. During merely two years in orbit **Sputnik 3** transmitted data about cosmic rays and the frequency of meteorites. **Sputnik 3** burned up after 10,037 earth orbits on 6 April 1960.

Cover with postmark and special stamp from Leningrad for the 10,000th earth orbit of **Sputnik 3** on 4 April 1960
(Two postmarks of different dates on the Sputnik 3 stamp were legal in the USSR)



The International Geophysical Year 1957/58

Japan played an active part in the I G Y by using **Sigma** and **Kappa** rockets for research of the upper atmosphere.

With the results of meteorological research flights achieved by the rockets,
Japan contributed to the world-wide assimilation of scientific data.

I G Y cover with special scenery cancellation of the launching site Michikawa,
refers to a launch of a **Kappa** research rocket on 1 March 58, (the year 33 in the Japanese calendar).



I G Y cover from China, 30 10 1958, with stamps depicting the successfully launched satellites of the Soviet Union.



The International Geophysical Year 1957/58

On 11 October 1958 the first U.S. space probe **Pioneer I** was launched from Cape Canaveral to the moon by the carrier rocket Thor-Able. **Pioneer I** failed to reach the moon but orbited the earth after getting two-thirds of the way.

The space probe transmitted data on the magnetic field of the earth and then burned up after 43 hours flight.

Pioneer I launch date cover from Patrick AFB on 11 October 1958



On 13 Dec. 1958 the USA performed another bio-experiment with a **Jupiter** rocket launched from Cape Canaveral with the monkey "**Gordo**" in the nosecone. The monkey survived the 8 ½ min. spaceflight in weightlessness, but the recovery failed.

Cover recording this event with postmark from Port Canaveral



The International Geophysical Year 1957/58

The first U.S. communication satellite of the world "Atlas Score", called "Chatterbox", was successfully launched from Cape Canaveral on 18 December 1958.

"Chatterbox" remained in earth orbit until 21 January 1959.
It transmitted the pre-recorded 1958 Christmas message of President Eisenhower.

Chatterbox ceased functioning on 21 January 1959

Cover recording the launch of the first U.S. communication satellite



A successful launch of an Atlas "C" carrier rocket was accomplished by the USA before the end of the IGY.

On 23 December 1958 the Atlas "C" carrier rocket made a successful flight of 7,000 km.

An important step towards manned space flight in earth orbit was achieved.



First Space probe to the Moon

The first space probe of the Soviet Union's **Lunik 1**, also intended to reach the moon, was launched on 2 January 1959.



Lunik 1

failed to reach the Moon as scheduled on 4 January 1959, passed it at a max. distance of 113,000 km from lunar surface. Hence, it became the first artificial planetoid of the sun on 8 January 1959.



Cover with special cancellation of Moscow marking the dates and the essential achievements of **Lunik 1** on a stamp depicting Lunik 1 and Sputnik 1-3 (supplementary franking on reverse side).



Experiments for the Recovery of Space Capsules

On 28 February 1959 the United States began a series of tests for re-entry and recovery of satellites (instrument capsules) from earth orbit with the launch of **Discoverer 1** from Vandenberg Air Force Base, California.

The "sugar-loaves" shaped satellite of 14 kg weight orbited the earth until 3 May 1959. The recovery failed.



On 13 April 1959 a Thor-Agena carrier rocket, launched at Patrick AFB, brought **Discovery 2** into earth orbit. After 17 orbits Discovery 2 re-entered the earth's atmosphere, but a recovery failed. It was lost in the Atlantic on 24 April 1959.

Both covers record the launch of Discoverer 1 und 2 with postmarks of Lompoc/Patrick AFB



Bio-rocket Flights with Monkeys and Mice

On 28 February 1959 the USA launched from Cape Canaveral a Jupiter carrier rocket with two monkeys, "Able" and "Baker", aboard on an "Astromonk" flight.

After 27,350 km flight, the nosecone was recovered from the Atlantic by the USS Kiowa.

The monkey "Baker" survived, but "Able" died after the otherwise successful flight.

Cover postmarked at Cape Canaveral on launch date of the Astromonk flight



Another bio-experiment took place with the launch of **Discovery 3** from Vandenberg AFB on 3 June 1959.

This time three mice went on the space flight, but the attempt to bring them into earth orbit failed.

Launch date cover with postmark from Vandenberg AFB



Experimental Rocket plane Flights in England

In the 1950's experimental flights by **Saunders-Roe 53** rocket planes were undertaken from the Bay Bescombe Down.

These jet-rocket planes were developed for extreme heights and supersonic speed by using a combination of turbo-jet and Bristol Sidley Gamma rocket engines with a thrust of 3.600 kg.

By Saunders-Roe SR. 53
JET ROCKET PLANE

Flown from: Bescombe Down England

To: _____

Date of Flight: 11-5-59

Plane number: XD 145

Pilot: Lt. Cdr. P. M. Camb

Notes: Supersonic levels

COWES
430PM
12 MAY
1959
ISLE OF WIGHT

VIA AIR

POSTAGE 3d

HARRY A. GORDON
C/O J. WOTHERSPON
14 East Main St.
Broxburn,
West Lothian
Scotland

The testing of the Bristol Sidley Gamma MK 201 rocket engine took place at Woomera in Australia.

Covers, flown by courtesy of the pilot, Lt. Cdr. Camb, on 12 May and 22 June 1959, on **Saunders-Roe SR 53** plane and posted next day at Cowes, Isle of White.

FROM THE DEVELOPMENT FLIGHTS OF THE
ROCKET ENGINE -TURBOJET POWERED

SAUNDERS -ROE SR 53

AT: Osborne Bay, Bescombe Down
.....
.....
Test Pilot

DATE: 21-6-59
(Supersonic levels)

6:00 PM
22 JUN
1959
THE WIGHT

1/3
JUBILEE JAMBOREE

Dr. M. Kronstein
3900 Manhattan College
Parkway
New York City 71
USA

X 15 and F-102 Experimental Flights of the USA

The first captive flight of the X 15 rocket plane plays a remarkable role in the history of space flight.

On 11 March 1959, USAF test pilot **Scott Crossfield** started the maiden flight with X 15, carried aloft by a B-52 carrier plane, to a height of 38,000 feet (11,550 m).

After release from the B-52, Crossfield performed the **first captive flight of the X 15**. After 1 hour 10 minutes of glider flight he made a safe dead-stick landing.

Cover postmarked at Edwards AFB with date of this historical event



On 4 May 1959 an F-102 A plane of the U.S. Air Force started from Tyndall AFB, Fla., for a special rocket experiment.

At a scheduled height, a Guided Aircraft Rocket "GAR 1 D" was fired from the F-102 A plane.

A few covers were flown on the F-102 A plane.

After landing at Tyndall AFB they were posted at Panama City on 5 May 1959.



Forerunner of the First Official Missile Mail of the USA

Before the first Official Missile Mail flight was realized by the USA, a

Regulus 1 rocket was launched on 1 May 1959 from the new U.S. Marine rocket base in the Pacific.

Regulus 1 carried 150 covers to Point Mugu, Calif.

This event took place in the presence of the postmaster of Los Angeles, the postmaster of nearby Port Huenerne, Calif., and public.

The experiment was conducted by the commander of the "Guided Missile Group 1" from Point Mugu.

Regulus 1 reached a height of 11,250 meters. After a 25 minute flight it landed at Point Mugu, Calif.

The 150 letters flown bear a specially prepared postmark applied at the post-office in Point Mugu on 1 May 1959.

100 covers postmarked at the post office on the submarine USS Barbero, without date, were distributed to the press on the occasion of the First Official Missile Mail dispatched on 8 June 1959



First Official Missile Mail of the USA

On 8 June 1959 the USA launched from the sub-marine **USS Barbero** a guided missile "**Regulus 1**" with 3000 letters aboard addressed to well-known personalities and postal authorities with a message from the Postmaster General, Summerfield.

After a 20 minute successful flight of 350 km, at a height of 10 km, **Regulus 1** landed at the Mayport, Jacksonville Fla.

To reach the necessary height and speed of Mach 2, there were Solid Rocket Boosters (SRB) on both sides of **Regulus 1**, a principle still applied on Space Shuttle flights.

The flown covers bear the postmarks from the post-office aboard the submarine USS Barbero, with date of launch, and were posted at Jacksonville, after arrival of **Regulus 1**.

Postmark from Jacksonville on reverse side of the cover



THE POSTMASTER GENERAL
WASHINGTON

June 1959

The First Official Missile Mail

Your receipt of this letter marks an historic milestone in the use of guided missiles for communications between the peoples of the earth.

THE POSTMASTER GENERAL
WASHINGTON

FIRST OFFICIAL
MISSILE
MAIL



Mr. Frank Tompkins
4441 MacArthur Boulevard
Washington, D. C.

First powered Flight of X-15 Rocket plane

The experimental flights with rocket planes Bell X-1 and X-2 were continued with the rocket plane X-15.

On 17 September 1959 the greatest rocket plane, the X-15, started from Edwards AFB, piloted by **Scott Crossfield**. After air launch from the carrier plane B-52 at a height of 39,475 feet, (12,000 m) and ignition of the rocket engine, **X-15 achieved the first powered flight**.

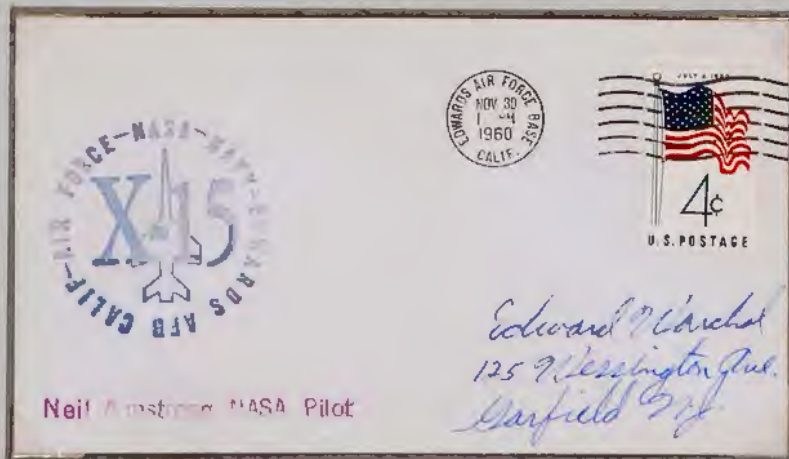
The carrying of covers on the X-15 rocket planes was strictly forbidden by the military.

Commemorative cover of the first powered flight of the X-15 on 17 September 1959



This rocket plane served as the training vehicle for Neil Armstrong and others bound for space. The test flights with X-rocket-planes are the precursors to Space Shuttle flights.

On 30 November 1960, **Neil Armstrong** performed a test-flight on X-15 rocket plane.



Space probes to the Moon by the Soviet Union

On 12 Sept. 1959 the Soviet Union launched the space probe Lunik 2, and for the first time a space probe impacted the moon on 14 Sept. 59. Postal stationery and stamps issued by the Soviet Union for the impact of Lunik 2 on the moon.



On 4 October 1959 the Soviet Union launched Lunik 3, the first space probe that succeeded in orbiting the moon. For the first time pictures of the rear of the moon were received on the earth.

Cover commemorating the first lunar orbit by Lunik 3 (special cachet at lower center).

Printed cachet at left and special cancellation dated 4 Oct. 59, marks the second anniversary of Sputnik 1, and also the launch of Lunik 3.



The Mercury Project of the USA



On 24 April 1959 the NASA announced
the "Mercury" project.

Aim: The first man in space.

On 9 September 1959

a "Big Joe" rocket was successfully
launched from Cape Canaveral and
inaugurated the Mercury test series.

The ballistic flight of the carrier rocket Atlas D
over 2,400 km was a complete success.

The test of the heat shield of the
Mercury capsule worked perfectly.

Parallel to the Mercury program,
various other supporting test programs
were undertaken by the NASA.

On 17 Sept. 1959 a Jupiter carrier rocket
was launched at Cape Canaveral
for a bio-test with 14 mice and 2 frogs aboard.

The nose cone with the passengers
exploded immediately after launch.



Mercury Program of the USA

After the launch of the "Big Joe" rocket the test flights of the Mercury program were continued. At Wallops Island various launches of solid propellant "Little Joe" rockets took place for tests of the launch escape tower system.

On 4 December 1959 a Redstone carrier rocket was launched from Wallops Island and carried "Little Joe 3" with the monkey "Mr. Sam" aloft.

After 13 minutes flight at a height of 88 ½ km the Little Joe capsule and Mr. Sam were picked up after splashdown by the recovery ship U.S.S. Borie.



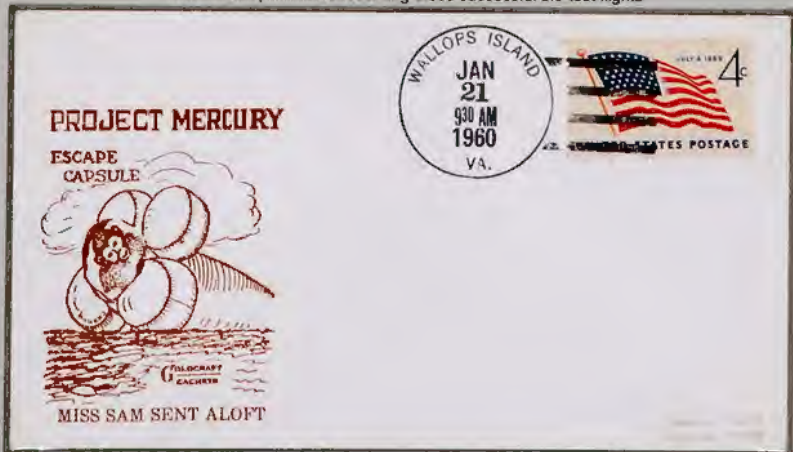
On 21 January 1960 a second test flight took place from Wallops Island with "Little Joe 4".

This time the passenger was "Miss Sam".

The flight and recovery after splashdown by "U.S.S. Opportune" were successful.

At both Little Joe test flights the escape system worked perfectly.

Covers with postmarks recording these successful bio-test flights

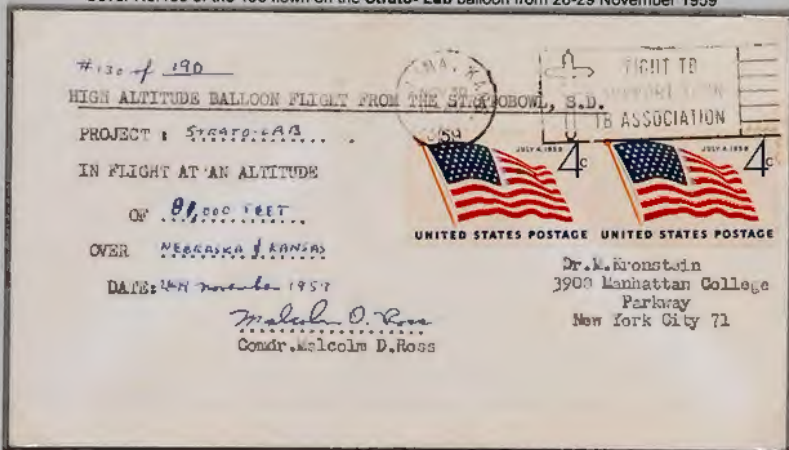


Strato-balloon Research Flights in the USA

From 28-29 Nov. 1959, Capt. Malcolm O. Ross, U.S. Navy, and the scientist Charles Moore ascended near Rapid City, Kans., with the **Strato-Lab** balloon for a 4th medical, scientific research flight.

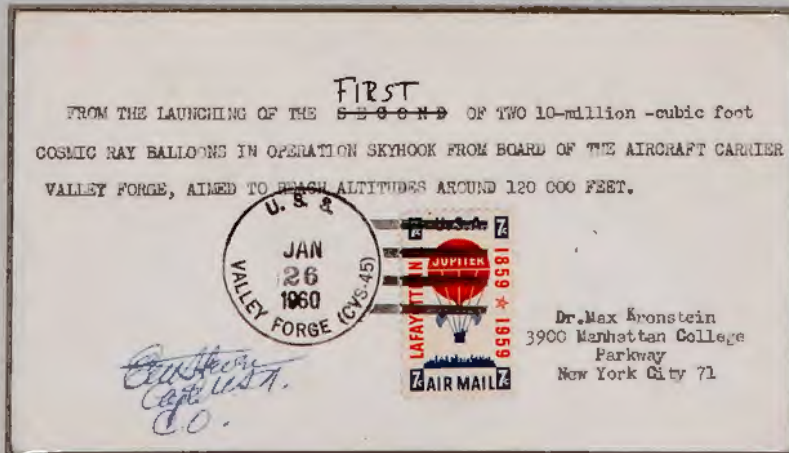
On their flight over Nebraska, Kans., at a height of 81,000 feet (24,600 m), they were confronted with heavy storms and had to undertake an emergency landing at Manhattan, Kans. Malcolm Ross was injured and had to be brought to the hospital.

Cover No. 130 of the 190 flown on the **Strato-Lab** balloon from 28-29 November 1959



On 26 January 1960 the U.S. Navy brought the greatest **Skyhook** balloon from the aircraft carrier ship "**USS Valley Forge**" into the stratosphere. The Skyhook balloon was equipped with a camera and instruments for studying the cosmic rays.

Launch cover postmarked at the post office on the U.S.S. Valley Forge, 26 Jan. 1960



Mercury Program of the USA

On 9 May 1960 a test flight with a **Mercury** capsule took place from Wallops Island.

This time the launch escape system of the Mercury spacecraft was successfully tested without a carrier rocket.



On 29 July 1960 the "**Mercury-Atlas 1**" (MA-1) spacecraft was launched from Cape Canaveral by an Atlas D carrier rocket for a ballistic test flight.

58 seconds after lift-off the spacecraft exploded.

This failure caused the NASA a set-back of several months.



First Orbit Recovery of a Space Capsule

After a series of tests for re-entry and recovery of satellites (instrument capsules) from earth orbit, the **first successful recovery** of a space object after its re-entry into earth atmosphere was made

on 11 August 1960 with the recovery of **Discoverer 13**, which had been launched from Vandenberg AFB the day before.

Cover recording the first successful recovery of a space object after earth orbit, 11 August 1960.



On 13 October 1960 an Atlas carrier rocket was launched from Cape Canaveral with three mice, "**Sally , Amy, and Moe**" aboard.

After separation from the Atlas carrier rocket, the nosecone remained in earth orbit for three hours.

The capsule and the mice were recovered from the Atlantic after 3 hours and a 8,045 km flight in good condition.

Although this test flight did not belong to the Mercury program it contributed to the future manned space flights.

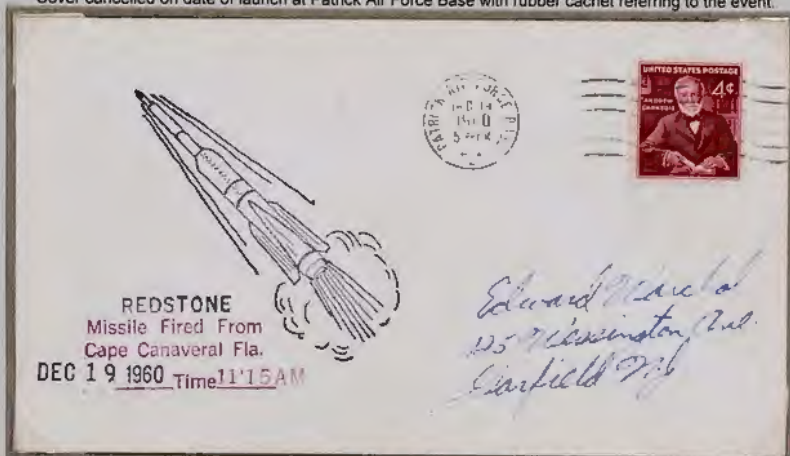


Mercury Program of the USA

The Mercury program included both unmanned and manned flights. Redstone carrier rockets were used for ballistic flights and Atlas carrier rockets for orbital flights.

A first unmanned ballistic test flight with a Mercury capsule took place with "Mercury-Redstone 1" (MR-1) launched from Cape Canaveral on 19 December 1960. The most successful flight formed a promising basis for the manned Mercury project.

Cover cancelled on date of launch at Patrick Air Force Base with rubber cachet referring to the event.



On 31 January 1961 the Mercury capsule **Mercury-Redstone 2** (MR-2) was launched from Cape Canaveral carrying for the first time in a Mercury spacecraft a living being, the chimpanzee "Ham" aboard.

The successful ballistic flight of **MR-2** reached an altitude of 253 km and a distance of 212 km. After splashdown in the Atlantic in the afternoon of the same day, the passenger was recovered in good condition.

Cover from the **USS Warrington**, one of the secondary recovery ships participating in the **MR-2** mission with ship cachet referring to the event.



On reverse side of the cover

Mercury Program of the USA

The second unmanned **Mercury-Atlas** test flight **MA-2** began with the launch from Cape Canaveral on 21 February 1961.

The seven astronauts selected for the manned Mercury flights were observers of the mission.

The 1,050 kg Mercury capsule splashed down in the Atlantic near Antigua Island after a successful flight over a distance of 645 km.

Cover cancelled at Patrick AFB on 21 February 1961 with rubber cachet related to **Mercury-Atlas 2** flight



A series of **Little Joe** rocket launches took place at Wallops Island, Virginia, for tests of a launch escape system in view of the planned manned spaceflights.

An escape tower was tested, operated by a Little Joe solid propellant rocket to lift

the spacecraft clear of the carrier rocket recovery during the launching phase, even from ground.

After successful separation of the space capsule the escape tower was rejected.

After a number of failures, the last test with **Little Joe 7**, launched on 28 April 1961 from Wallops Island, was a success.

Cover recording the launch of Little Joe 7 from Wallops Island with related official rubber cachet



Vostok Program of the USSR

Cosmonaut Yuri Gagarin became the first man to orbit the earth with his spacecraft Vostok 1 on 12 April 1961. Gagarin orbited the earth with **Vostok 1** at a height of 181 to 237 km and landed after 1 hour and 48 min. flight in the village Smelanka.

It was the post office at Kiev that made a special cancellation available, recording this top secret performed spaceflight, on the date of event, 12 April 1961.



A black cancel was applied after announcement of the successful landing of **Vostok 1** and a red cancel for only 1-3/4 hours, the symbolic time of Gagarin's spaceflight.

First man in space was cosmonaut Yuri Gagarin on 12 April 1961, marked on this date by special cancel from the post office at Kiev.

Сегодня, 12 апреля 1961 года, ЮРИЙ ГАГАРИН на космическом корабле „ВОСТОК“ впервые в истории человечества совершил полёт в космос

Зап. 1013-807, 12.4.61 г.

Faked Registered stationery of Kiev with special cancellation 12 4 61, the date of Yuri Gagarin's first manned space flight



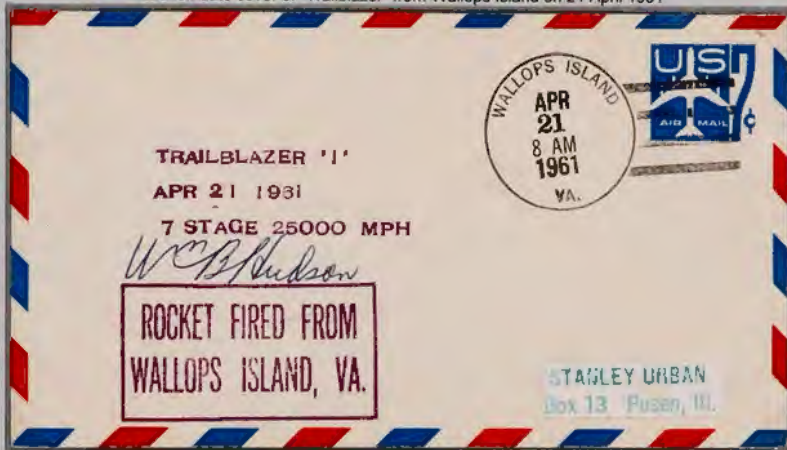
Mercury Program of the USA

After the unexpected success of the Soviet Union in bringing the first man into earth orbit, the USA made the last preparations to also follow with a manned space flight.

On 21 April 1961 a "Trailblazer 1" research rocket was launched from Wallops Island for a re-entry test, as an essential part of the first manned space flight, planned with astronaut Alan B. Shepard.

The 7 stage rocket reached a speed of 40,250 km/h before re-entry into the earth's atmosphere.

Launch date cover of "Trailblazer" from Wallops Island on 21 April 1961

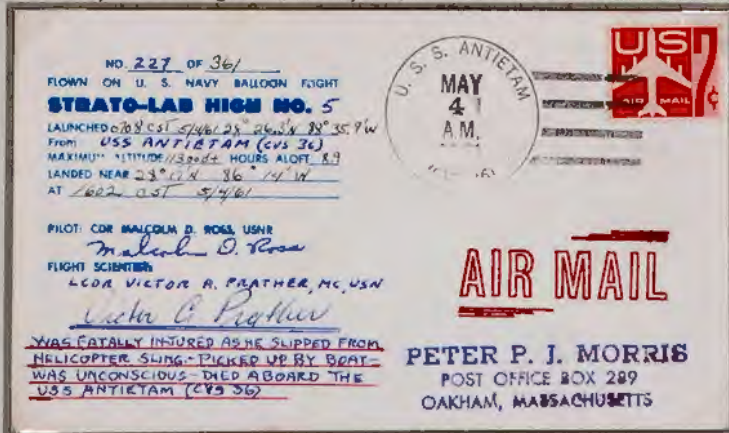


The fifth and last Strato-Lab High flight of the U.S. "Man in Space Soonest" project took place a day before the first manned ballistic space flight of Alan Shepard on 4 May 1961.

The strato-balloon ascended from the aircraft carrier U.S.S. Antietam with Commander Ross and scientist Victor Prather, to a record altitude ever achieved by a manned strato-balloon, of 113,740 feet (34,575 m).

Prather was killed in an accident caused during their retrieval by helicopter.

Cover flown by Strato-Lab High No. 5, on 4 May 1961, with detailed note on the death of Victor Prather.



Mercury Program of the USA

On 5 May 1961 the USA succeeded in bringing the first man into space.

Mercury-Redstone 3 was launched from Cape Canaveral with astronaut **Alan B. Shepard** on board for a 15 min. and 22 sec. ballistic flight over 486 km at a height of 187 km.

Cover postmarked on 5 May 1961 at Port Canaveral, nearest post office to the launch site, for recording this historical event.



After splashdown A. Shepard was recovered along with his Mercury capsule "Freedom 7" by the main recovery ship **USS Lake Champlain**.

Captain's cover of **USS Lake Champlain** postmarked on board the ship, 5 May 1961, with official ship cachet referring to the mission.



Mercury Program of the USA

Mercury Atlas 4 was launched from Cape Canaveral on 13 September 1961

The spacecraft was checked during the one earth orbit, and for the first time Mercury tracking stations were used for supervision.

A "dummy astronaut" on board simulated the pilot.



After completing a successful mission and splashdown, the Mercury Atlas 4 capsule was recovered by the USS Decatur.

Captain's cover of the prime recovery ship, USS Decatur, postmarked on 13 September 1961 with official ship cachet referring to the event.



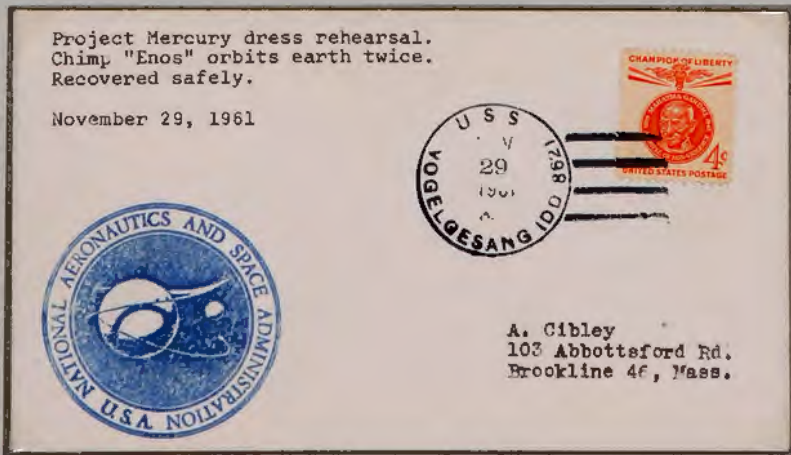
Mercury Program of the USA

With the launch of **Mercury Atlas 5** on 29 November 1961 from Cape Canaveral
with the chimp "Enos" on board,
a last test was undertaken before the first manned space flight in earth orbit.



MA-5 successfully orbited the earth twice in a 1 hour and 25 min. flight.
After splashdown "Enos" was recovered safe and sound.

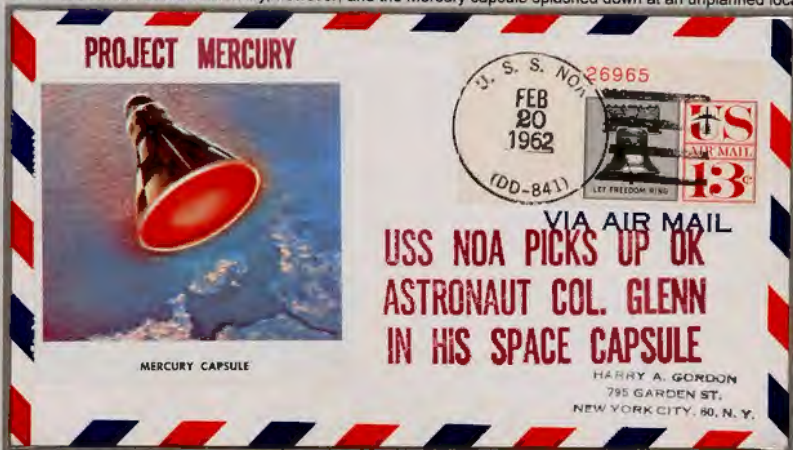
Cover postmarked on the **USS Vogelsang**, one of the secondary recovery ships
participating in the Mercury Atlas 5 recovery mission.



Mercury Program of the USA

On 20 February 1962, after several delays, John Glenn was launched from Cape Canaveral in his **Mercury-Atlas** spacecraft "Friendship 7", for the first manned orbital flight of the USA.

During 4 hours and 55 min. he orbited the earth in a height of 161-261 km. Problems were encountered on re-entry, however, and the Mercury capsule splashed down at an unplanned location.



USS Noa, a secondary recovery ship in action in case of emergency landing, was nearest to the place of splashdown and became the main recovery ship by taking Glenn and his spacecraft aboard.

A small quantity of covers were postmarked on board the **USS Noa** on the exact date of recovery on 20 February 1962

John Glenn was picked up later by a helicopter from **USS Noah** and brought on the Prime recovery ship **USS Randolph**. Cover postmarked after the arrival of Glenn at the **USS Randolph**.



Vostok and Voshod Program of the USSR

On 14-19 June 1963 two manned Vostok spacecraft performed a formation flight with Vostok 5 and 6. Cosmonaut Bykovsky orbited the earth 81 times with Vostok 5 and Valentina Tereskowa, the first woman in space, succeeded in 41 earth orbits with Vostok 6.



The first successful spaceflight took place for the first time with three cosmonauts, Komarov, Jegerow and Feoktistow aboard of a new spacecraft Voshod 1 on 12-13 October 1964. Voshod 1 orbited the earth 16 times.



Gemini Program of the USA

The second US manned space project named "Gemini" was developed for a two man spacecraft program. Aim of this new project was to get experience in long-duration space flights, EVAs and docking procedure, in regard to the Apollo program.

The Gemini spacecraft was brought into orbit by a Titan II carrier rocket.

On 19 January 1965 an unmanned ballistic test flight took place with **Gemini-Titan 2** for testing the heat shield, the re-entry, and all other spacecraft systems.

After a successful test flight and splashdown, **Gemini-Titan 2** was picked up by the prime recovery ship **USS Lake Champlain**



On 23 March 1965 **Gemini-Titan 3 (GT-3)** was launched from Cape Canaveral with the astronauts **Gus Grissom** and **John Young** for the **first manned space flight** with the Gemini spacecraft.

For the first time the astronauts succeeded in changing the orbit of a spacecraft.

After 3 earth orbits **GT-3** splashed down in the Atlantic, and the capsule with the astronauts was recovered by the prime recovery ship **USS Intrepid**

Both covers, postmarked on the date of recovery, bear a ship rubber cachet referring to the event



Gemini Program of the USA

When **Gemini-Titan 4 (GT-4)**, for the second manned Gemini spaceflight with the astronauts **John McDivitt** and **Ed White** aboard was launched from Cape Canaveral on 3 June 1965, the control of a spacecraft was taken over for the first time by the **Manned Spacecraft Center in Houston, Texas**.

Control and command was provided from Houston beginning immediately after launch for the four-day flight.

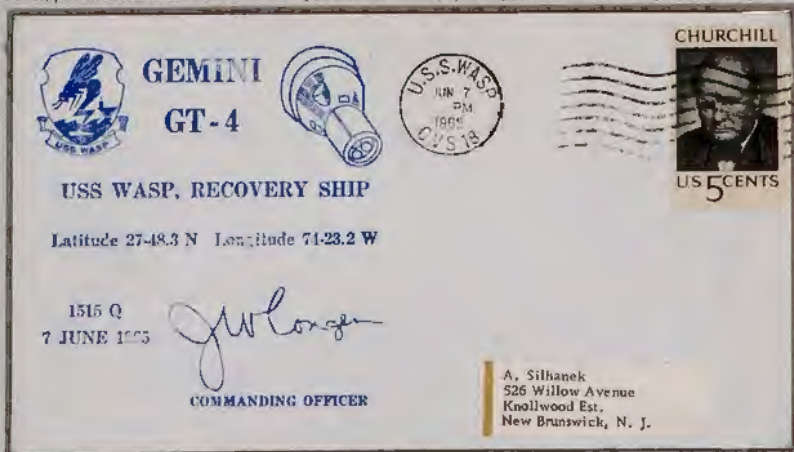
Manned Spacecraft Center also was responsible for the **supervision of the mission**, namely the **first US spacewalk** of 20 minutes performed by astronaut **White**.



Cover marking the inauguration of the Manned Spacecraft Center in Houston as space missions control point with date of launch and splashdown of GT-4.

The successful first long duration mission with 62 earth orbits, achieved by Gemini-Titan 4, ended with the splashdown at the Atlantic on 7 June 1965, where the Gemini capsule and the astronauts were recovered by the main recovery ship **USS Wasp**.

Cover, postmarked aboard the **USS Wasp**, on 7 June 1965, specially printed for recording the recovery of GT-4.



Gemini Program of the USA

Kennedy Space Center post office was opened on 1 July 1965 and from this date onwards special **NASA** cachets were applied referring to the missions, mainly related to manned spaceflights from Gemini 5 up to Apollo-Soyuz.

These official **NASA** cachets were applied only on individual postal forwarded mail.

On 21 August 1965 **Gemini-Titan 5** (GT-5) was launched from KSC with the astronauts Gordon **Cooper** and Charles **Conrad** aboard. The 8 days flight and the 120 earth orbits brought valuable experience in view of the planned moon operation.



The launch of **GT-6** was planned for 25 October 1965 with the astronauts Wally **Schirra** and Thomas **Stafford** but had to be cancelled just before count-down since the **Agena** rocket, launched 2 hours before for a rendezvous and docking with **GT-6** failed to reach the orbit. Hence, the **GT-6** launch had to be postponed.

Covers postmarked at Kennedy Space Center on 21 August 1965, launch of **GT-5** and on 25 October 1965, the cancelled launch date of **GT-8**, with first **NASA** cachet referring to manned missions.



Gemini Program of the USA

On 4 December 1965 **Gemini-Titan 7** was launched from KSC with the astronauts **Frank Borman** and **Jim Lovell** aboard.
On 15 December followed the postponed launch of Gemini-Titan 6A with **Schirra** and **Stafford**.

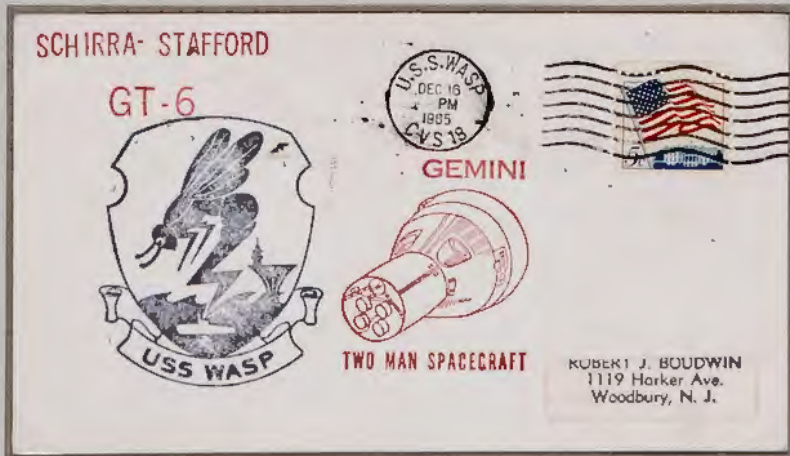
For the first time two US manned spacecraft were in space up to the same time.
After 6 min. flight **GT-6** approached the "passive" **GT-7** until a distance of 12 inches (30 cm) and performed a first rendezvous in space. After a 25 hours flight, **GT-6** splashed down at the Atlantic.

Launch date cover of GT-6 from KSC with NASA cachet referring to the rendezvous in space on 15 Dec. 1965



The crew of **GT-7** remained in orbit for 14 days gathering data on the effects of weightlessness on long-duration space flights.

On 18 Dec. 1965 GT-7 splashed down in the Atlantic and was recovered by USS Wasp, same as GT-6 before on 16 Dec. 1965
Cover postmarked on 16 Dec. 1965 aboard the prime recovery ship **USS Wasp** after recovery of **GT-6**



Saturn-Apollo Program of the USA

On 27 October 1961 the NASA started with the launch of the **Saturn-Apollo 1** carrier rocket from Cape Canaveral a series of 10 test flights to verify its full functionality as a launch vehicle for the Apollo spacecraft.

For this first test the **Saturn C-1** was provided with an active first stage and a dummy second stage. This first ballistic test flight was successful.



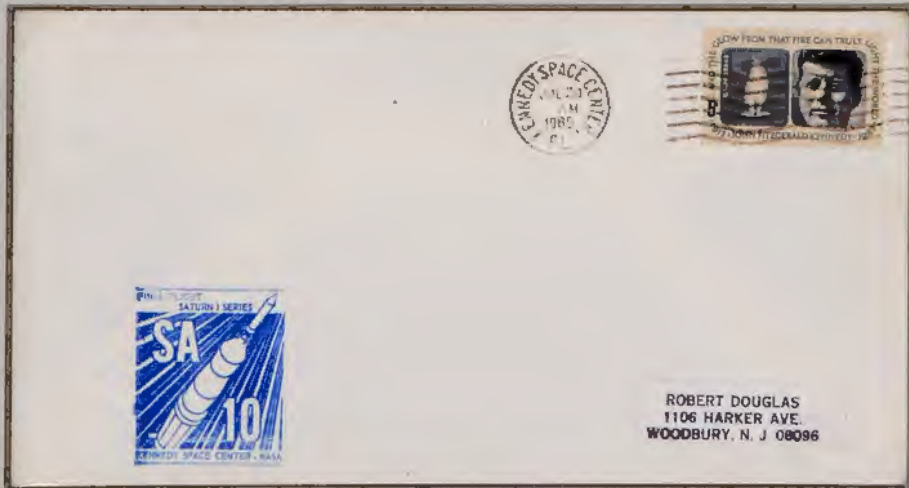
On 30 July 1965 the last test of the Saturn series took place with the launch of the **Saturn-Apollo 10**, SA-10.

Same as with SA-8 and 9 the cargo was a reconstruction of the Apollo capsule.

With the second stage a "Pegasus" satellite was brought into earth orbit.

With the successful end of the Saturn test series an important step towards the conquest of the moon was completed.

For recording the final test flight of **Saturn-Apollo 10** the KSC post office applied the **first official NASA** cachet on covers posted at the launch date on 30 July 1965.



Apollo Program of the USA

On 26 February 1966 the NASA launched the first unmanned Apollo spacecraft, "AS-201", from KSC with the Saturn 1 B launch vehicle.

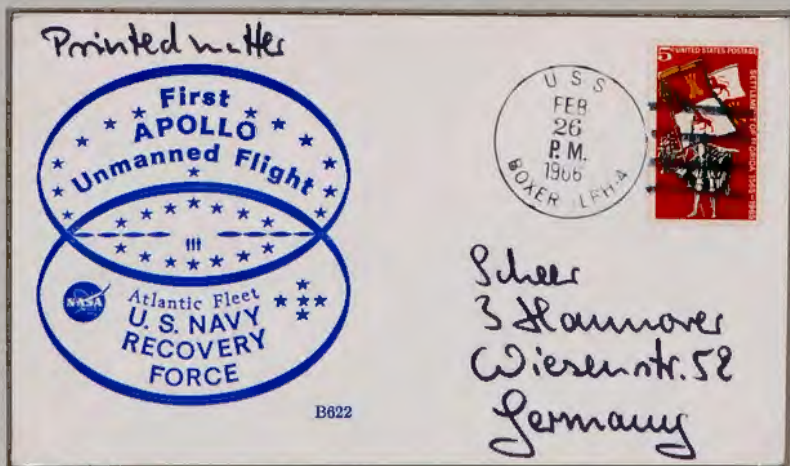
The ballistic flight served for a component test of the Apollo commando module and the service unit.

KSC launch cover with NASA cachet related to the first unmanned Apollo test flight.



After a successful mission the Apollo capsule splashed down near Ascension Island and was picked up by the main recovery ship **USS Boxer**.

Cover postmarked at the recovery ship USS Boxer on 26 Feb. 1966 with ship rubber cachet referring to the 1st unmanned Apollo mission.

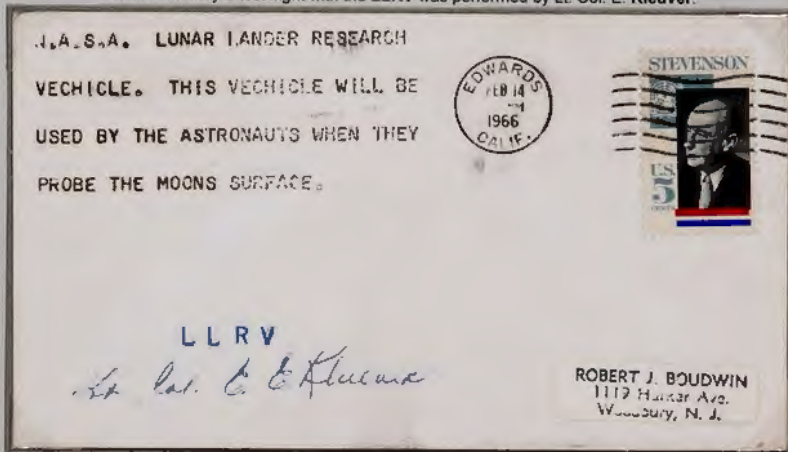


B822

Apollo Program of the USA

Planning a landing on the moon also required test-flying the lunar module.
NASA test pilots performed training flights at Edwards AFB for lunar landing simulations
with LLTV and LLRV so-called Lunar Lander Research Vehicle.

On 14 February a test flight with the LLRV was performed by Lt. Col. E. Kleuver.



On 5 July 1966 a second test of the Saturn 1 B launch vehicle took place with "AS-203" from KSC.
This time, without the Apollo module, Saturn 1 B brought the second stage filled with hydrogen into earth orbit.

Cover postmarked to the launch of AS-203 at KSC post office
on 5 July AM 1966, with red mission cachet of the NASA



The Apollo 1 and USSR Soyuz 1 Tragedy

The first manned Apollo spaceflight, **AS-204**, was planned for 21 February 1967.

A pre-launch ground test with the crew took place on 27 January 1967 at Kennedy Space Center.

A flash fire occurred in the spacecraft and there was no opportunity to save the three astronauts, Gus **Grissom**, Ed **White**, and Roger **Chaffee**.

Cover recording the **Apollo tragedy** by KSC postmarks, - USPO for domestic mail and MC - as well as NASA cachet prepared for the first manned Apollo test.



Following the success of the Vostok and Voshod programs, the Soviets constructed a second generation of spacecraft, **Soyuz 1**. **Soyuz 1** was launched from Baikonur on 23 April 1967 with Colonel **Vladimir Komarov**.

On 24 April 1967, after 18 orbits, problems arose at re-entry when the parachute system failed during excessive re-entry heating, and **Komarov** became the first man to die in space.

Soyuz 1 commemorative cover postmarked at Tartu with stamp depicting Komarov and special cachet referring to this tragic event.



Apollo Program of the USA

On 11 October 1968 the astronauts **Schirra, Eisele** and **Cunningham** started with **Apollo 7**, AS-205, spacecraft, for an eleven day flight as the last test of the Saturn 1B launch vehicle and the Apollo commando module in earth orbit. Apollo 7 made splashdown on 22 October 1968 and was recovered with the three astronauts from the main recovery ship **USS Essex**.

Captain's cover from **USS Essex** postmarked on date of recovery of Apollo 7 capsule and astronauts, recording this event by letter saying: "This will be the only place in the world that will cancel letters like this".



USS Essex, CVS-9

The stamp cancellation that is on the envelope is a special Apollo 7 recovery cachet. This will be the only place in the world that will cancel letters like this. This cancellation will be stamped on the letters on the day that we recover the Apollo 7 astronauts and their space craft.

Donald W. Fugate

ComCarDiv 20 Bend

USS ESSEX CVS-9

in FLEET POST OFFICE
NEW YORK, NEW YORK 09501



Ruby



Miss Mamie Fugate
545 Margaret Ct.
Orlando, Florida

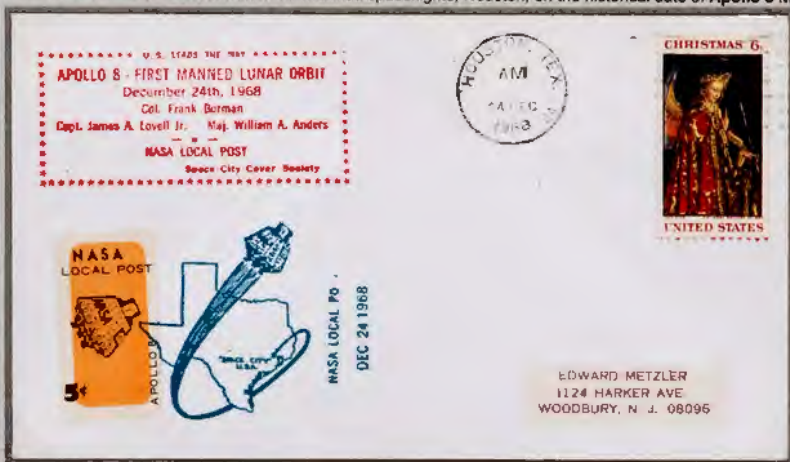
First manned Flight around the Moon

With **Apollo 8**, AS-503, the first manned spacecraft left our earth towards the moon.

On 21 December 1968 Apollo 8 was launched from KSC with the astronauts **Borman, Lovell and Anders** aboard. With ignition of the third stage of Saturn 1B during 2nd earth orbit, Apollo 8 was brought on its way to the moon.

On 24 December Apollo 8 succeeded in orbiting the Moon and sent pictures from the moon's surface.

Cover postmarked at Mission Control Center for manned spaceflights, Houston, on the historical date of **Apollo 8** Moon orbit



After 10 moon orbits astronaut Borman brought the Apollo 8 commando capsule back home to earth.

On 27 December 1968 AS-503 made splashdown in the Pacific and capsule and astronauts were picked up by the prime recovery ship **USS Yorktown**.

Cover postmarked aboard the **USS Yorktown** after recovery of **Apollo 8** on 27 Dec. 1968



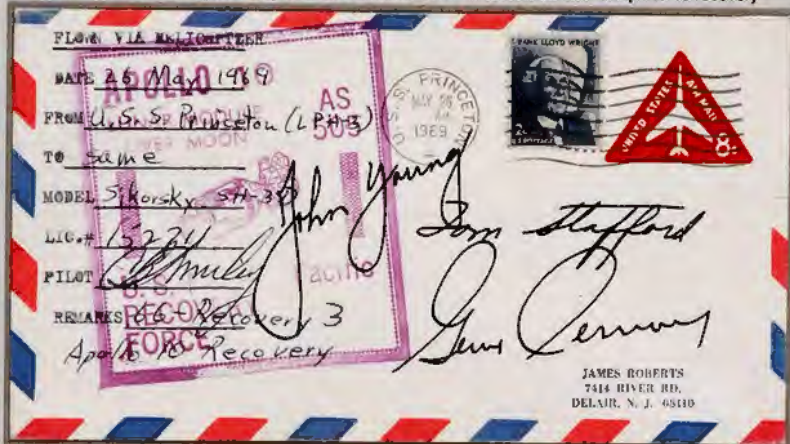
The Beginning of the Apollo Moon adventure

On 18 May 1969 **Apollo 10** was launched from KSC with the astronauts **Stafford, Young, and Cernan** for a general rehearsal before the moon landing.

After reaching the moon orbit, Stafford and Cernan switched into the lunar module, **LEM**, and separated from the Apollo commando capsule. After two moon orbits at a distance of 15 km, they docked again with the lunar module onto the Apollo capsule.

On 26 May 1968 **Apollo 10** made splash down in the Pacific and was picked up by helicopter and brought to the main recovery ship **USS Princeton**.

Cover flown on **helicopter** and postmarked aboard **USS Princeton** on date of **Apollo 10** recovery



On 16 July 1969 **Apollo 11** was launched from Kennedy Space Center to the Moon with the astronauts **Neil Armstrong, Ed Aldrin and Michael Collins** on board.

16 July 1969 launch date of Apollo 11 recorded by postmark from KSC with NASA cachet referring to the mission.



The first Men on the Moon

On 20 July 1969 the LEM "Eagle" landed on the Moon
and Neil Armstrong made the historical first step onto its surface.

This historical event was the beginning of a new era of mankind and gave good cause for
US President Richard Nixon to address a special card to officials and friends
from KSC which marked the landing of the first man on the moon by writing:
"We invite you to join us in a great adventure"

We invite you to join us in a great adventure:
man's initial exploration of the moon.
I say "join us" in the most literal sense,
for while it is American astronauts who just
became the first men in history to set foot
on the lunar surface, the universe belongs to us all.
And if today it is the United States that is probing
the secrets of the moon, tomorrow it will be other
nations as well. Only three men went on this
dramatic voyage, and only two of them had landed
with the "EAGLE" on the moon, but the whole
world was with them.



- Richard Nixon
President of the United States



During a 3 hour stay, Armstrong was accompanied by Aldrin and they fulfilled several tasks.
The "Eagle" brought them back to the Apollo module, piloted in orbit by Collins, and after docking returned to earth.

After a successful mission **Apollo 11** made splashdown on 24 July 1969
and the three astronauts and spacecraft were picked up by the main recovery ship **USS Hornet**.

Cover dated 20 July 1969, **Apollo 11** moon landing, recorded by postmark of the Mission Control Center, Houston,
responsible for the supervision during the entire mission, with a rubber cachet of the NASA control center.



Recovery of Apollo 11

There were three different postmarks applied at the post office of the main recovery ship **USS Hornet** and an official ship cachet for recording the event.
Cover flown on **rescue helicopter** that picked up the astronauts Neil Armstrong, Michael Collins and Buzz Aldrin after splashdown in the Pacific and brought them to the main recovery ship on 24 July 1969, with **USS Hornet hand cancel**

APOLLO-11



"MOON LANDING MISSION"

Helicopter #66

Pilot Bill Jones

Date 7/24/69

Remarks _____

Charles E. Simpson
Box 52923
Houston, Texas
77052

USS Hornet
machine cancel
of 23 Ø

APOLLO

MANNED
LUNAR
LANDING

AS
506





Hauptbergungsstaff

APOLLO

MANNED
LUNAR
LANDING

AS
506





**U. S. NAVY
RECOVERY
FORCE**

PACIFIC

*Anna Wilson
854 Alameda
La Jolla
Calif. 92034*

U.S. AIR MAIL
10 CENTS
PHILADELPHIA, PA. 19124

USS Hornet
machine cancel
of 21 Ø

Cover with letter
referring to the
mission of **Apollo 11**

with postmark of
the main recovery ship
USS Hornet

U.S.S. Hornet CVS-12

APOLLO 11 RECOVERY

July 18th, 1969

Greetings from the USS Hornet and the crew
of the Apollo 11 recovery mission in the Pacific.

We're off Christmas Island heading north
to Johnston Island where we'll pickup the moon
astronauts on July 24th, and then return to
Pearl Harbor, Hawaii, for the end of this very
interesting assignment.

Sincerely,

J. Walter Green
Associated Press Photos

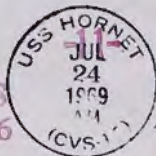
J. Walter Green
Associated Press

APOLLO

MANNED
LUNAR
LANDING

U.S. NAVY
RECOVERY
FORCE

AS
506



Mr. Charles Schell
48 Ash Street
Braintree, Mass.

02184

PACIFIC

Covers flown by Apollo 15 on the Moon

The pioneer work of the rocket inventors and constructors culminated in the moon landings.

A philatelic highlight of the Apollo flights formed the "Apollo 15 Moon covers"

Apollo 15 was launched on 26 July 1971 from Kennedy Space Center, with astronauts **Dave Scott**, **Al Worden** and **Jim Irwin** on board. On 31 July the LEM "**Falcon**" landed on the Moon. Besides personal covers the three astronauts carried 100 so-called "Sieger Moon Covers" flown by astronauts Irwin and Scott with LEM "**Falcon**" on 30 July to the Moon, and after 3 days stay, back to the Apollo command capsule on 2 August 1971.

They were returned to Earth on 7 August 1971 where, after splashdown, the crew and the special cargo was recovered by the main recovery ship **USS Okinawa**.

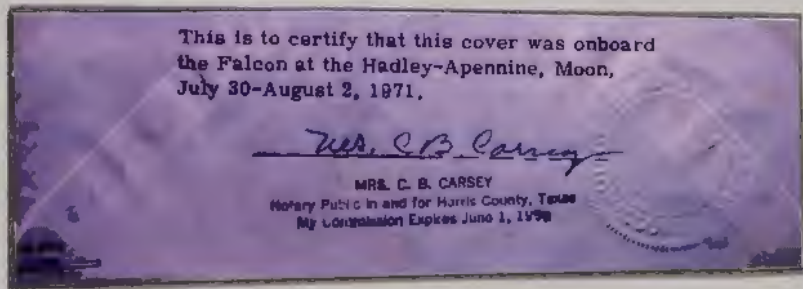
The special printed covers bear the 26 July 1971 launch date postmark of KSC and the 7 August 1971 recovery date postmark of the **USS Okinawa** and the signatures of the **Apollo 15** crew.

The 100 Sieger Moon covers bear in the left upper corner the handwritten confirmation:

"Landed at Hadley Moon July 30, 1971", signed by Scott and Irwin.



Also, there is a notary endorsement on the reverse side with additional embossing seal.

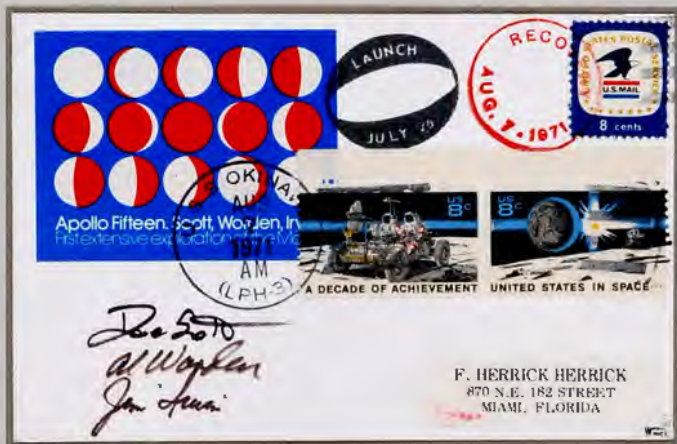


Covers flown by Apollo 15 around the Moon

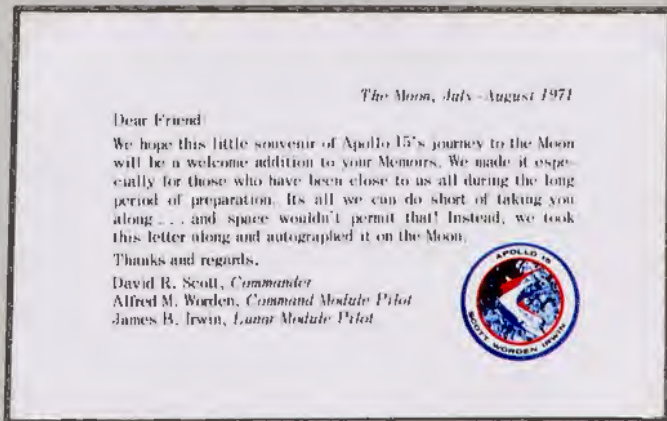
The crew of **Apollo 15** also took covers aboard the spacecraft intended for orbiting the Moon. 100 of the so-called "**Herrick Moon Phases**" covers ended in the hands of collectors.

These covers were flown around the moon by Al Worden on the Apollo Command Capsule. They are distinguished by a blue and white sticker of the Apollo 15 mission and showing the 15 moon phases. They bear two private cancels related to the July 26 launch and the recovery on August 7, 1971.

They are also postmarked at the main recovery ship **USS Okinawa** August 7, 1971, and signed by the crew of Apollo 15.



A separate card, with a printed message of the **Apollo 15** crew referring to the mission, was used for stuffer.



The first Space Mail delivered after first Docking of two Soviet Spacecraft

On 16 January 1969 the first successful docking of Soyuz 5 and Soyuz 4 took place. After docking, two cosmonauts transferred to Soyuz 4. They acted as postmen and delivered the first spacemail to cosmonaut Shatalov in Soyuz 4.

A provisional post office was installed at Cosmodrome Baikonur, and for the first time covers were postmarked at the launching place on the date of event. Cover recording the first space docking, cancelled at Cosmodrome Baikonur and signed by the four cosmonauts. Both, the postal stationery and the special cancellation (instead of the post office), have the inscription of "Earth-Cosmos-Cosmos-Earth" to mark the first mail transport into space.



On 7 Feb. 1977 the cosmonauts Viktor Gorbatko and Yuri Glusko were launched with Soyuz 24 to the space station Salyut 5. In their baggage they had a special cancel "Cosmic mail aboard Salyut 5, February 1977" from the Ministry of post and communication. This cancel was applied at Salyut 5 on a few covers and signed by the cosmonauts. On 25 Feb. 77 Gorbatko and Glusko returned to earth.



Reduced confirmation from Gorbatko on reverse side that the cover was flown to Salyut 5.



Inauguration of the Cosmodrome Baikonur post office

On 25 April 1975, on the occasion of the visit of the US Prime and Back crew, elected for the forthcoming **Apollo-Soyuz** joint space flight of the USA & USSR, a post office was inaugurated at **Cosmodrome Baikonur**, and from this time onwards, official postmarks were available recording the date and place of launch of space stations, supply and spaceships, related to manned space flights in the USSR.

Cover sent from astronaut Alan Bean to his cousin, postmarked on 28 April 1975 at the post office of the **Cosmodrome Baikonur**



Spacestation Salyut 6

On 29 September 1977 the space station **Salyut 6** was launched at Cosmodrome Baikonur.

It was the first orbital station with two docking systems and the permanent crew could receive other cosmonauts and supply spacecraft

Registered letter with launch date postmark of post office at the Cosmodrome marking this event.
The postal stationery relates to early rocket developments in the USSR



Inauguration of the First Post Office in Space

On 10 December 1977 the cosmonauts Georgi Gretschko and Viktor Romanenko were launched on Soyuz 26 from Cosmodrome Baikonur to the orbital station Salyut 6.

With the launch of **Soyuz 28** on 2 March 1978 the first Intercosmos flight with cosmonauts Alexej Gubarow/USSR and Vladimir Remek/CSSR took place. On 3 March 1978 Soyuz 28 docked with the orbital station Salyut 6.

The cosmonauts Gubarow/USSR and Remek /CSSR brought along to the space station two special cancellations prepared by the postal administrations of the USSR and CSSR for recording the event, together with a decree of the USSR Postal Administration opening the **first post office in space on board Salyut 6**.

Cosmonaut **Gretschko** was officially appointed to act as first postmaster in space.

The first in-space post office was officially opened on 8 March 1978. A special date combination, **-8-3-78**, was used aboard **Salyut 6** in the special cancellation of the USSR, (commemorative covers on Earth bear same postmark but with 08 03 78 date combination).

The postmark of the CSSR had permanent date of launch 2.3.78.

The space mail was brought back to Earth by Soyuz 27 on 16 March 1978.

Cover postmarked at first post office in space.
Handwritten confirmation on flap by cosmonaut
Gretschko attests that the cover was
cancelled at the space station
post office on opening day,
8 March 1978.



Space Mail from Salyut 6 Orbital Station

In April 1980 the crew of **Soyuz 35** brought to the orbital station **Salyut 6** a special pentagon mark with inscription "aboard of the space station Salyut 6".

These non-postal markings were inaugurated by Intercosmos and Glavcosmos to be applied only at the orbital station.

(The special pentagon marks of the Salyut 6 and Salyut 7 space stations and the octagonal mark of orbital station Mir were applied not only to philatelic objects but also to any other objects leaving the orbital station for return to earth, to confirm their stay in the station.)

On 23 July 1980 **Soyuz 37** was launched for an Intercosmosflight with the Vietnamese **Pham Tuan** and cosmonaut **Viktor W. Gorbatko** and docked with the orbital station **Salyut 6**.

Cover flown to the orbital station **Salyut 6** by the crew of **Soyuz 37** and cancelled aboard after docking on 24 July 1980.

Handwritten confirmation "aboard Salyut 6 orbital station" of cosmonaut **Viktor Gorbatko** on reverse side of the cover



Space Mail from Salyut 7 Orbital Station.

On 3 April 1984 the crew of **Soyuz T-11** with the cosmonauts **Juri Malyshev**, **Gennedi Strekalov**, and the Indian, **Rakesh Sharma**, was launched to the orbital station **Salyut 7**.

On 4 April Soyuz T-11 docked to Salyut 7, where since 8 Feb. 84 the cosmonauts **Kizim**, **Solovjov**, and **Atko** orbited the earth. **Rakesh Sharma** brought a few personal covers to the orbital station to have a philatelic remembrance of the mission.

On 11 April Sharma and the cosmonauts **Malyshev** and **Strekalov** returned to earth by **Soyuz T-10**.

The postal stationery of the USSR, issued and postmarked to the 50th Anniversary of the death of **Jury Gagarin** was cancelled a day after the docking of **Soyuz T-11** to the orbital station **Salyut 7**, on 5 April 84, with the official postmarks of India and USSR issued to the mission and the octagonal board cancel of **Salyut 7**, and signed by the cosmonauts present.

Cover flown on Intercosmosflight USSR/India with handwritten confirmation of **Rakesh Sharma**



Space Mail from Salyut 7 and MIR Orbital Station

On 15 March 1986, Soyuz T-15 started to the space station MIR, launched 3 weeks earlier.

After docking, Kizim and Solovjov inaugurated the new manned orbital station. Before they visited the orbital station Salyut 7. For the first time two space stations were docked during the same spaceflight. To record this event, the cosmonauts used the board cancel of Salyut 7, (before it burned up in space), and firstly the board cancel of MIR, on a few covers carried along on their flight.



On 22 July 1987 Soyuz TM-3 was launched with the cosmonauts Victorenko, Alexandrov and the Syrian Faris to MIR, to visit Romanenko and Lavjekin. After docking they cancelled some covers carried along with the postage stamp from Syria, issued to this event, with the official mission cancellations of Syria and the USSR and the board cancel of MIR.



First Official US and USSR Space Mail

The first official space mail of the United States, a cooperative project of the United States Postal Administration and NASA, was flown on the Space Shuttle flight **STS-8** on 30 August to 5 September 1983. Special cover with Kennedy Space Center first day cancellation of the \$ 9.35 stamp dated 14 August 1983 with special design "Space Mail/Orbited Via STS-8" and 25th anniversary of NASA, as well as cancellations related to the launch on **30 August 1983** and the return to earth at Edwards AFB on **5 September 1983**.



The first official space mail of the USSR was carried by the unmanned supply spaceship, **Progress 33**, launched from Baikonur on 21 November 1987 to the orbital station **MIR**.

The special covers prepared for this event bear a special stamp "30 Years Cosmic Era" and related special cancellation and the postmark of Cosmodrome Baikonur with launch date.

A special octagonal Mir mark of Glavcosmos was applied by the Cosmonauts on board of the space station. After returning to earth on 29 December 1987 a special cancellation was applied by the post office at landing site **Arkalik**.



Second Official Space mail of the USSR

On 26 November 1988 the Russian cosmonauts Alexander **Wolkow**, Sergej **Krikalov**, and the Frenchman, Jean Louis **Chrétien**, were launched with **Soyuz TM-7** to the orbital station **MIR**.



Международная Книга

International Book Club
1921 _____ 2. Mag _____ 88

CERTIFICATE

This is to certify that this cover has flown to the orbital space station "Mir" on board of "Soyuz TM-7". It was cancelled there on arrival at the official space post office on November 28th, 1988.

On April 29th 1989, the departure day of "Soyuz TM-7", this cover was cancelled again on board of the "Mir" space complex. This cover has also the official cancellation of the "Mir" complex.

In addition this cover has also a so very cancellation (CNES - Clavkosmos) of the Soviet-French joint flight.

This cover has the personal signatures of the following members of the crew involved:

A. VOLKOV
S. KRIBALOV
V. POLTAROV
N. KHARIN
V. PIZOV
J.-L. CHRETIEN



[Signature]
S. Krikalov
Major Gen. 1st Class
"Mezhdunarodnaya Kniga"

The cosmonauts were provided by Glavkosmos with 123 covers and by the Russian post administration with an official octagonal postmark with adjustable date, and inscription "Manned Orbital complex Mir, post department", for remaining permanently in the orbital station.

After docking of TM-7 to Mir on 28 November 1988, (by mistake on the certificate 1989), the octagonal board postmark was applied to the 123 covers

as well as the permanent board cancel and a souvenir cancel of CNES and Glavkosmos for marking this event.

The date of undocking on 27 April 1989 of TM-7 was also marked by the octagonal postmark and the covers signed

An additional certificate of Glavkosmos with signatures of the cosmonauts involved in the mission of TM-7 confirmed that the mail was flown to and cancelled aboard of MIR.

Reduced copy of the certificate

СССР Москва 11 888 USSR Москва
Телефонный адрес: Мещинский Музей. Кабинет 100



[Signature]
Major Gen. 1st Class



[Signatures of Wolkow, Krikalov, and Chrétien]