Americans in Space

In the late 1950s rocket powered aircraft were poised to pierce the veil of outer space. Both the Soviet Union and the United States had lofted man-made satellites into orbit for purposes ranging from scientific inquiry and weather forecasting to communications and military reconnaissance. Russia and America also established programs for humans to ride the missiles and eventually pilot them.

Postmarked on the Prime Recovery Ship (PRS) for the first American to orbit the Earth.

Beginning in 1959 the National Aeronautics and Space Administration (NASA) conducted flights that put Americans into space. Project Mercury established that a pilot could orbit the Earth. Project Gemini developed advanced capabilities for long duration flight, docking, and walking in space. Lastly, Project Apollo extended our reach with the exploration of the Moon.

The exhibit traces our nation's path through three periods of manned space exploration. Project Mercury (1959-1963) mixed monkeys, robots and America's first space pilots in a Space Race with the Soviets. Project Gemini (1962-1966) saw the introduction of computers in orbit, fuel cells to generate electricity, docking two spacecraft and walking in space. The exhibit concludes with the triumphant Project Apollo (1960-1975) that fulfilled President Kennedy's goal of "landing a man on the moon and returning him safely to the earth."

In keeping with the Federation Internationale de Philatelie (FIP) regulations for Astrophilately, the cancels in this exhibit conform to the principle that the story of the conquest of space is best told with envelopes postmarked on the date and closest to the entity controlling the event.

Project Mercury

"Tossing a man up in the air and letting him come back…is about the same technical value as the circus stunt of shooting a young lady from a cannon…"

Hugh Dryden, NACA 1958

The 1950s was a golden age of aviation in America. Test pilots at Edwards and elsewhere were constantly expanding the limits of aeronautical science, licking the outside of the envelope, in astrophilatelic parlance. The speed of sound, conquered just a few years before, was now routinely exceeded by production line Air Force fighters. Modified F-104 Starfighters were flying zoom profiles that brought them to the highest reaches of the usable atmosphere. And then came the X-15. An aircraft with the performance characteristics of a V-2 missile, it flirted with outer space at a time when space travel was relegated to science fiction.

In 1957 James McDonnell of McDonnell Aircraft gave a commencement address to an engineering school in which he predicted that the first manned Earth satellite would take place between 1990 and 2005. After the Soviets successfully launched an orbiting satellite a few months later it became clear to both the Eisenhower Administration and the Department of Defense that America would put an American into orbit. In less than 2 years McDonnell would sign a contract worth $18.3 million to serve as prime contractor for the Mercury spacecraft.

NASA Project A, announcement no. 1, dated December 22, 1958, sought GS-12 to GS-15 pilots for the position of "Research Astronaut-Candidate". Project Mercury had been announced the previous week. Successful applicants would be college prepared military test pilots with at least 1500 hours of flying time and be qualified in jets. The Pentagon was able to identify more than 100 men who met the criteria.

In the end seven men were selected. Shepard would fly first, be grounded for years, and then return to golf on the moon. Grissom would almost drown, command the first manned Gemini mission, and then die while preparing the first Apollo capsule. Glenn would circle the globe, become a Senator and run for President, and then ride the Space Shuttle as the oldest human to orbit at 77. Carpenter would have 4 hours in space, leaving as the only American to fly into space only alone. Schirra would command Mercury, Gemini, and Apollo spacecraft before hanging up his helmet. Cooper would be the last American to venture into space alone. He returned to fly in the follow on program – Project Gemini. Slayton would be grounded before he had a chance to fly. As fate would have it, 13 years later, he got his chance on the final flight of the Apollo program. Ironically, the space race that had been a competition with the Soviet Union ended on his mission with the first joint Soviet/US flight.

When Yuri Gagarin flew in 1961 the flight controls were locked. A code from Mission Control was required if he was needed to pilot the capsule. Similarly, the early Mercury flights could have been successfully flown by autopilot. Robot and astrochimps proved that. By the end of the program, however, not having an astronaut pilot in the loop made mission success impossible. The need for an ape had evolved into the need for a man.

"Man is the deciding element…As long as Man is able to alter the decision of the machine, we will have a spacecraft that can perform under any known conditions."

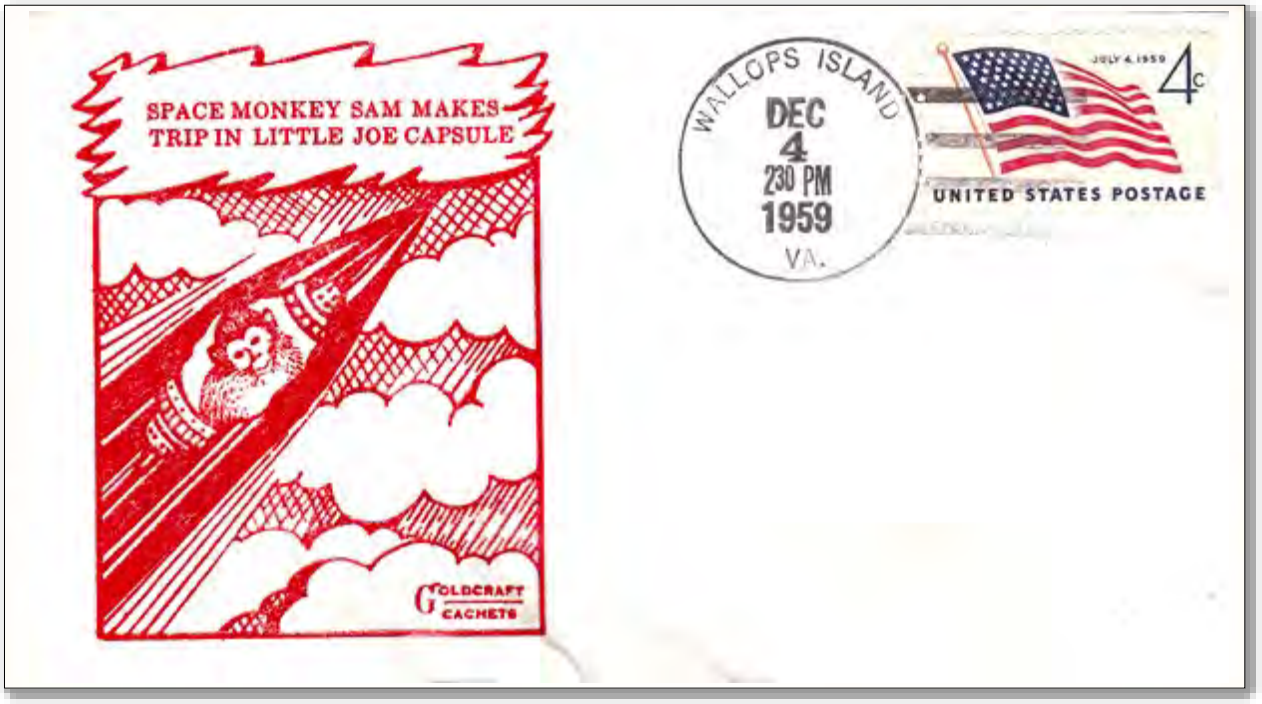
Chris Kraft, NASA 1963

BJ-1 Port Canaveral Hand Cancel **09 Sept 1959**

*Little Joe -1 (***LJ-1***) was a failed attempt launched from Wallops Island on 21 Aug 1959. This was followed on 9 Sept 1959, by a boiler plate Atlas test carrying a letter addressed to Robert Gilruth:*

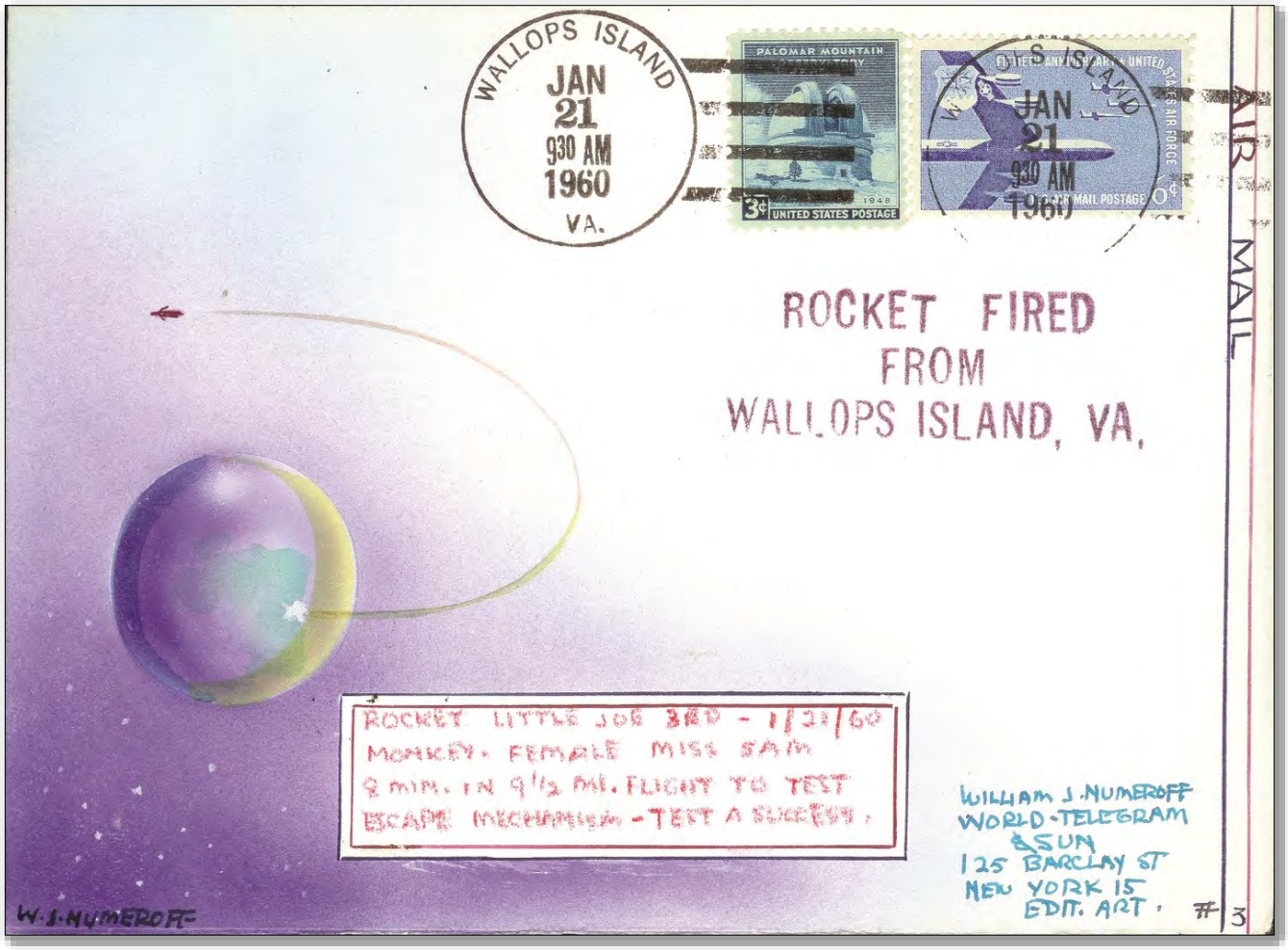
This note comes to you after being transported into space during the successful flight of the "Big Joe" capsule, the first full-scale flight operation associated with Project Mercury.

LJ-2 Wallops Island Hand Cancel **4 Dec 1959**



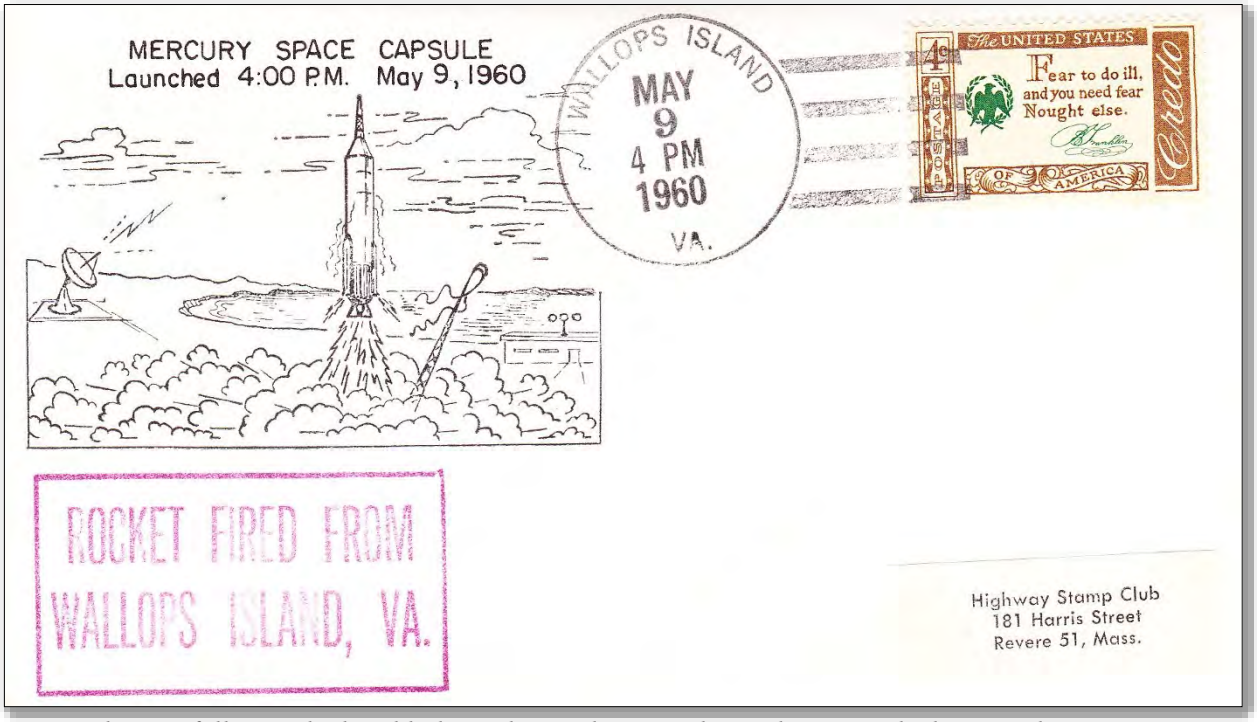
*Capsule aerodynamics (**LJ-6**) and abort at max Q (**LJ-1A**) is followed by launch of "Sam".*

LJ-1B Wallops Island Hand Cancel **21 Jan 1960**



"Miss Sam" used a escape rocket to simulated booster failure. Capsule returned by helicopter to Wallops Station.

Beach Abort Wallops Island Hand Cancel **9 May 1960**

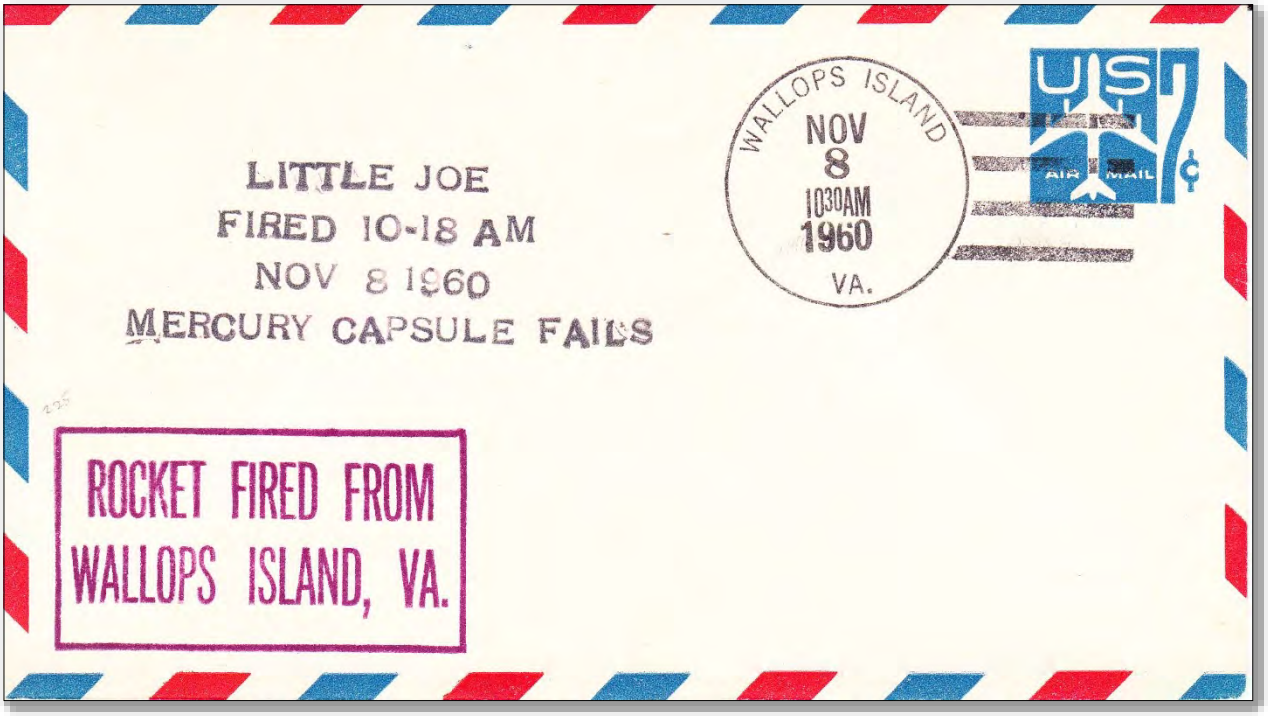


The carefully weighed and balanced capsule pointed its pylon towards the sea. The ignition switch closed and the escape rocket jerked the capsule from the ground on its short flight, lasting one minute and 16 seconds, covering half a mile in an arc 2465 feet high.

MA-1 Patrick Air Force Base Machine Cancel **29 Jul 1960**

*Following a Beach Abort (**BA**) success at Wallops Island the Atlas' liquid oxygen boil off valve failed due to vibration induced fatigue. This caused an explosion that destroyed both the booster and Mercury capsule. Ironically, Project Apollo is announced on this day.*

LJ-5 Wallops Island Machine Cancel **8 Nov 1960**



The first production capsule was sent aloft to evaluate flight qualification of abort conditions at maximum dynamic pressure. Escape rocket, tower jettison rocket, and booster all fired at the same time keeping the vehicle mated until impact shattered them into fragments. Only 40 percent of the capsule was found.

MR-1A Port Canaveral Hand Cancel **19 Dec 1960**

Three weeks later a new embarrassment. Mercury Redstone-1 (**MR-1**) *flew four inches before the engine shut down. After altering the booster tail plug* **MR-1A** *produced an unqualified success.*

MR-2 Patrick Air Force Base Machine Cancel **31 Jan 1961**

Supplied by Holloman Aerospace Medical Center "Ham" experienced 17g, loss of cabin pressure, and took on 800 lbs of sea water following splashdown.

MA-2 Port Canaveral Hand Cancel **21 Feb 1961**

Except for a redesign the landing bag impact attenuation system, the Mercury capsule appeared ready to carry the first American astronaut into space. Strengthened with an eight-inch "belly band" to support the last of the thin skin Atlas boosters, the rocket had a magnificent flight, "nominal in nearly every respect."

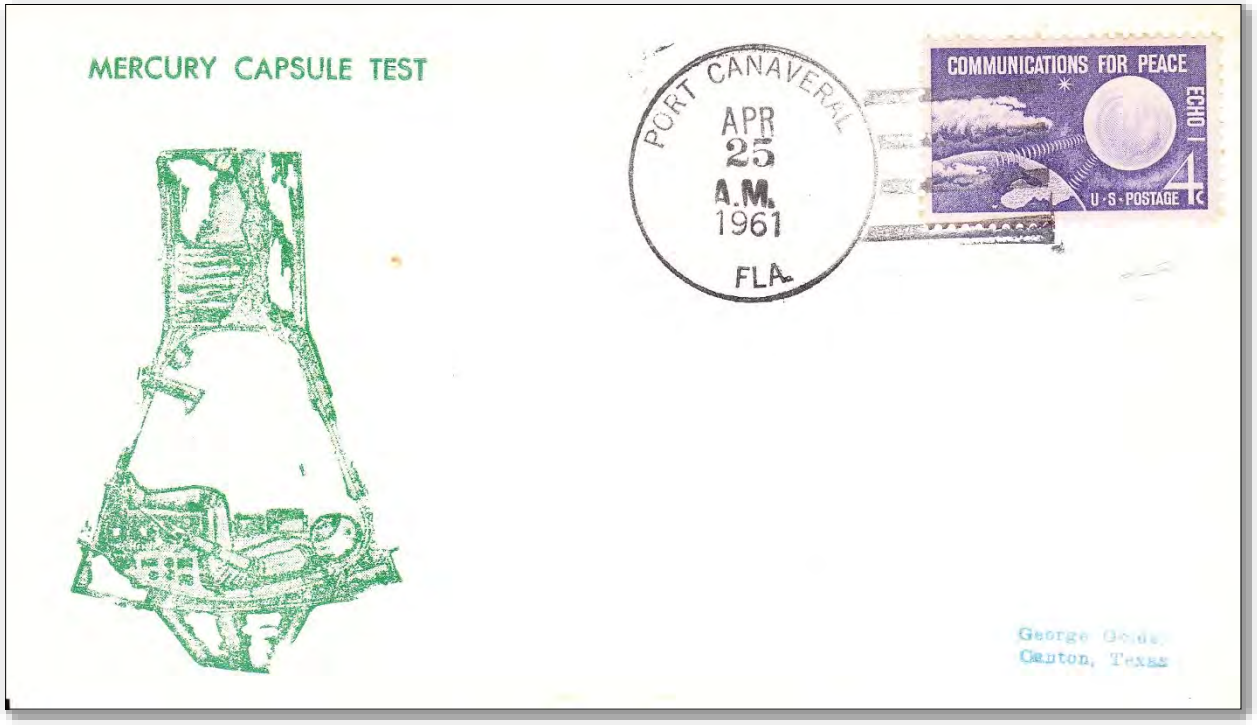
LJ-5A Wallops Island Machine Cancel **18 Mar 1961**

Again the escape rocket fired early causing the capsule to tumble on separation, narrowly missing the booster as it decelerated. The retropack and escape tower were inadvertently jettisoned or torn off.

MR-BD Port Canaveral SUSPECT Hand Cancel **24 Mar 1961**

Telemetry revealed that the Redstone still vibrated a bit but all the "quick-fixes" had worked. Redstone was now trustworthy enough to be called "man-rated."

MA-3 Port Canaveral Hand Cancel **25 Apr 1961**



A Presidential panel was rumored to recommend at least 50 more chimpanzee runs before lofting a man. Gilruth remarked facetiously that if this were true, the Mercury program ought to move to Africa. The report was released April 12, 1961, on the same day the Soviets put Gagarin in orbit.

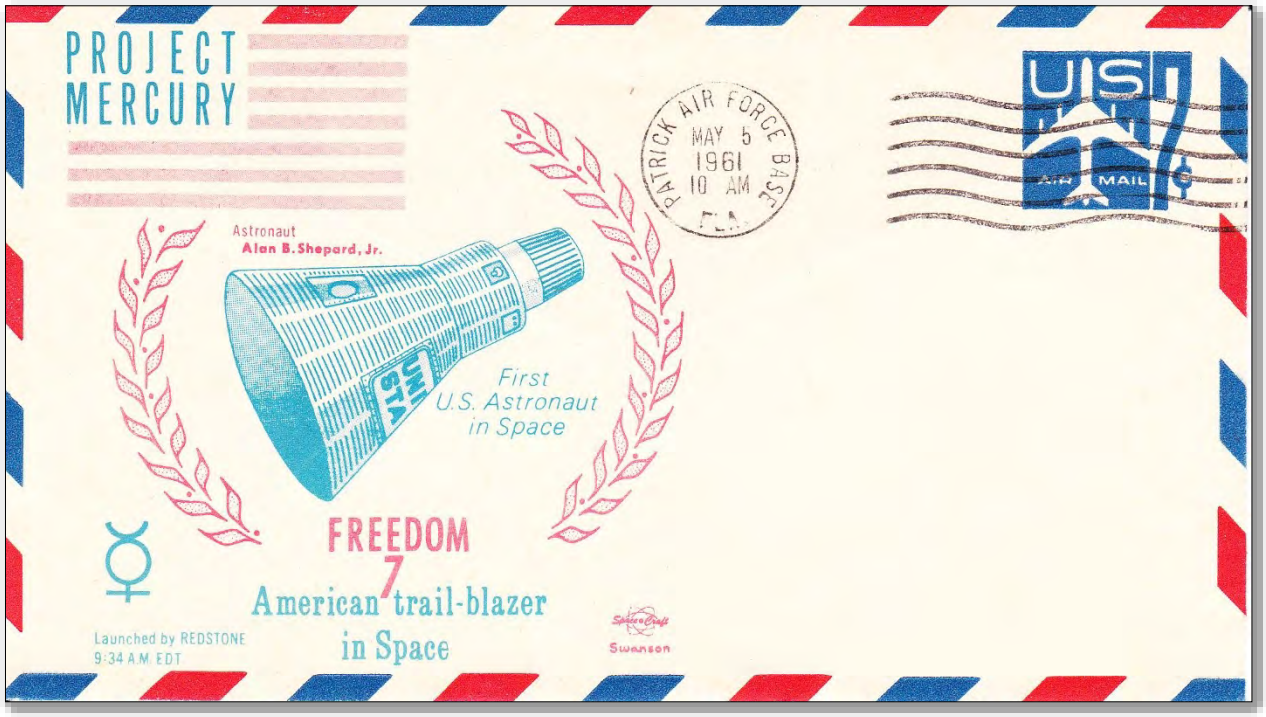
LJ-5B Wallops Island Machine Cancel **28 Apr 1961**

Despite the failure of one of the Castor rocket motors to ignite for the first five seconds the mission was judged a success. Changes in circuitry resolved the premature ignition of the escape rocket motor.

MR-3 Port Canaveral Machine Cancel **5 May 1961**

Life *magazine referred to Shepard, Glenn and Grissom as the Gold Team.*
On 22 Feb 1961 they were identified by the Space Task Group (STG) as the first to fly.

MR-3 Patrick Air Force Base Machine Cancel **5 May 1961**



Take off was at 09:34 and splashdown occurred at 09:50. By the time this envelope was postmarked the 15 minute suborbital ride, including a mere five minutes of weightlessness, was over.

MR-3 *USS Lake Champlain* Type I Hand Cancel **5 May 1961**

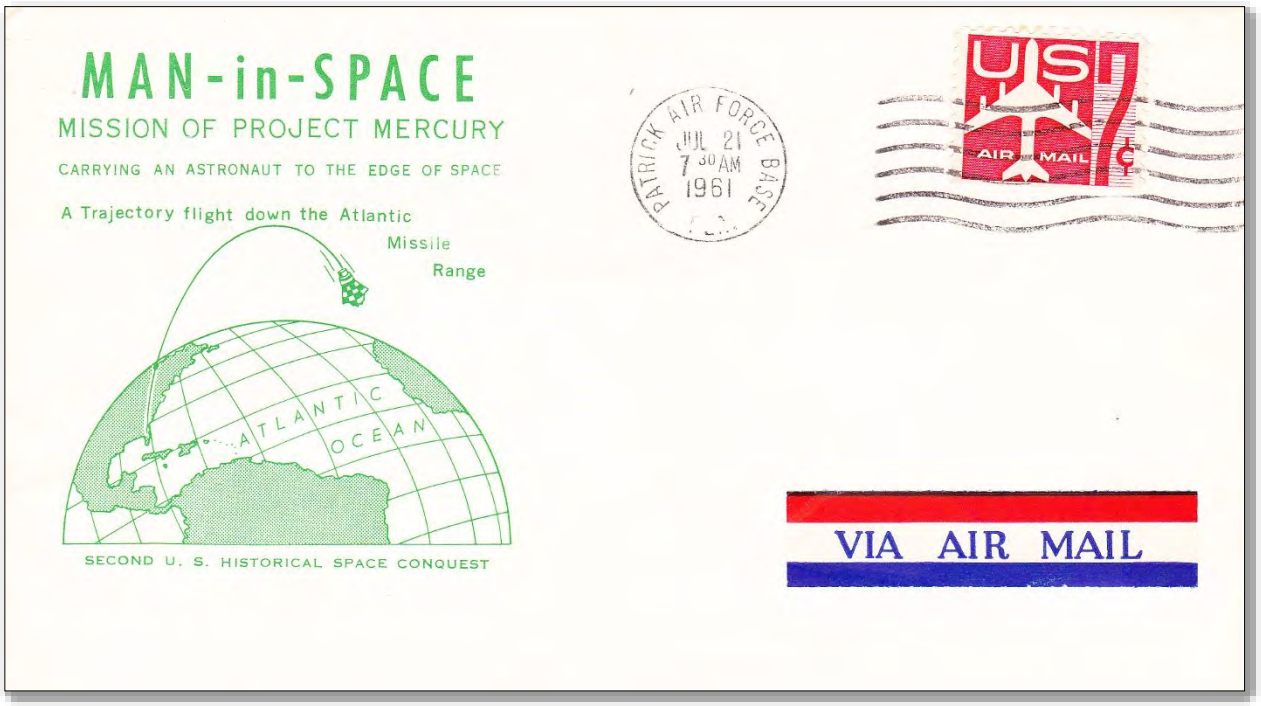
Rare crew mail from the Prime Recovery Ship (PRS). The address has been erased.

MR-3
USS Lake Champlain
SUSPECT
Hand Cancel

MR-3 Type II

Within three weeks President Kennedy would say, "Now is the time to take longer strides and land a man on the moon." Of the Mercury astronauts only Shepard would take that step.

MR-4 Patrick Air Force Base Machine Cancel **21 Jul 1961**



Packed in the Mercury capsule awaiting launch Grissom experienced a wide range of feelings. His heart rate ranged from 64 to 162 beats per minute. At the debrief he admitted he was "a bit scared."

MR-4 USS Randolph Type II Hand Cancel **21 Jul 1961**

Following splashdown the hatch "just blew" resulting in loss of the capsule. Bobbing under the waves, Grissom was scared and angry. He was floating or swimming only four or five minutes "although it seemed like an eternity to me."

MA-4 Patrick Air Force Base SUSPECT Machine Cancel **13 Sept 1961**

Die II

Die III

All Patrick Air Force Base covers from Sept 1959 to Sept 1961 with Die III were backdated. These are characterized by a year date that extends below an imaginary line transecting the "P" in Patrick and the "e" in Base. Die III postmarks have legible "FLA." while Die II do not.

MA-4 *USS Decatur* Hand Cancel **13 Sept 1961**

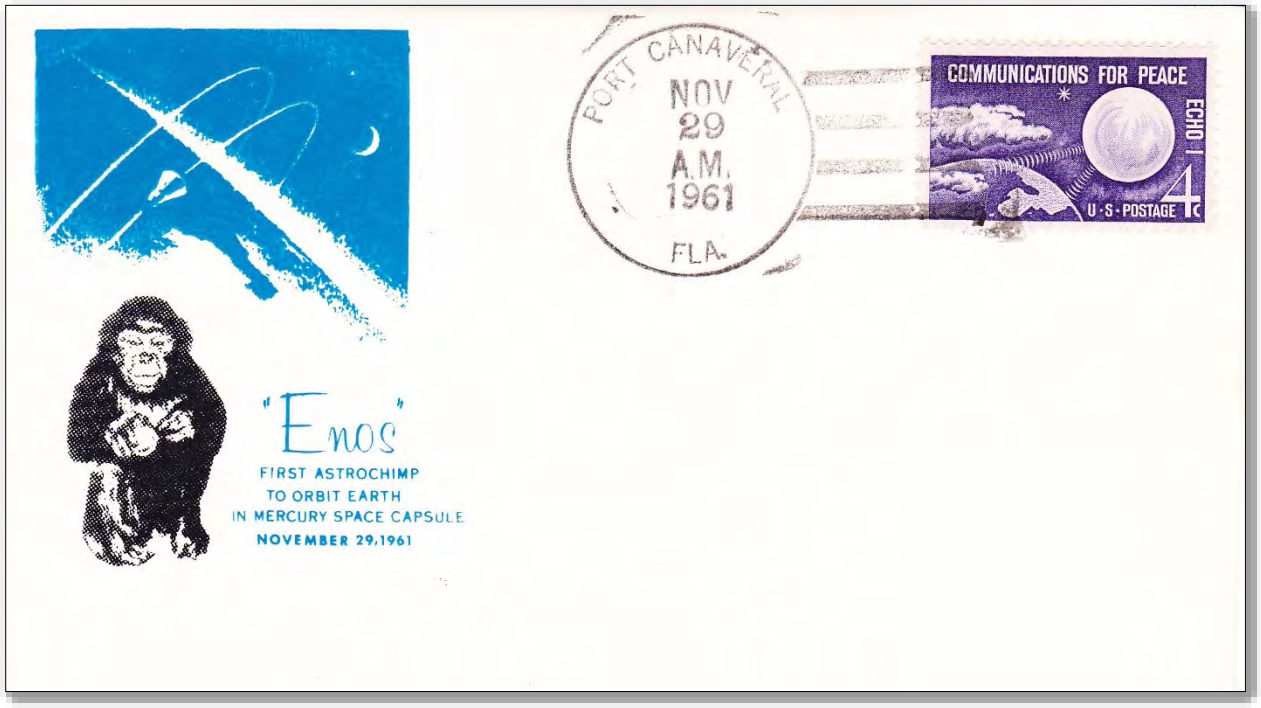
One of 75 Crew envelopes postmarked for Lt. Felt. Two hurricanes, "Carla" and "Debbie", thrashed the Mercury tracking areas with the latter giving the ships in the prime recovery zone a rough ride the day before. USS Decatur, 34 miles from the impact point, made the recovery.

Photograph of MS-1 during one of the 43 seconds before the rocket tore itself apart.

MS-1 Patrick Air Force Base Machine Cancel **1 Nov 1961**

Fired from the Project Vanguard launch pad, Mercury-Scout was a four-stage, solid-propellant "poor man's rocket" used to test worldwide tracking. Crossed wiring necessitated destruction by Range Safety Officer after 43 seconds. This was also the first official day of the new Manned Spacecraft Center in Houston, TX.

MA-5 Port Canaveral Hand Cancel **29 Nov 1961**



For three hours and two of the three planned orbits Enos (Greek for "Man") pulled levers and flew around the world. The tracking and recovery networks functioned well. Time to orbit a man.

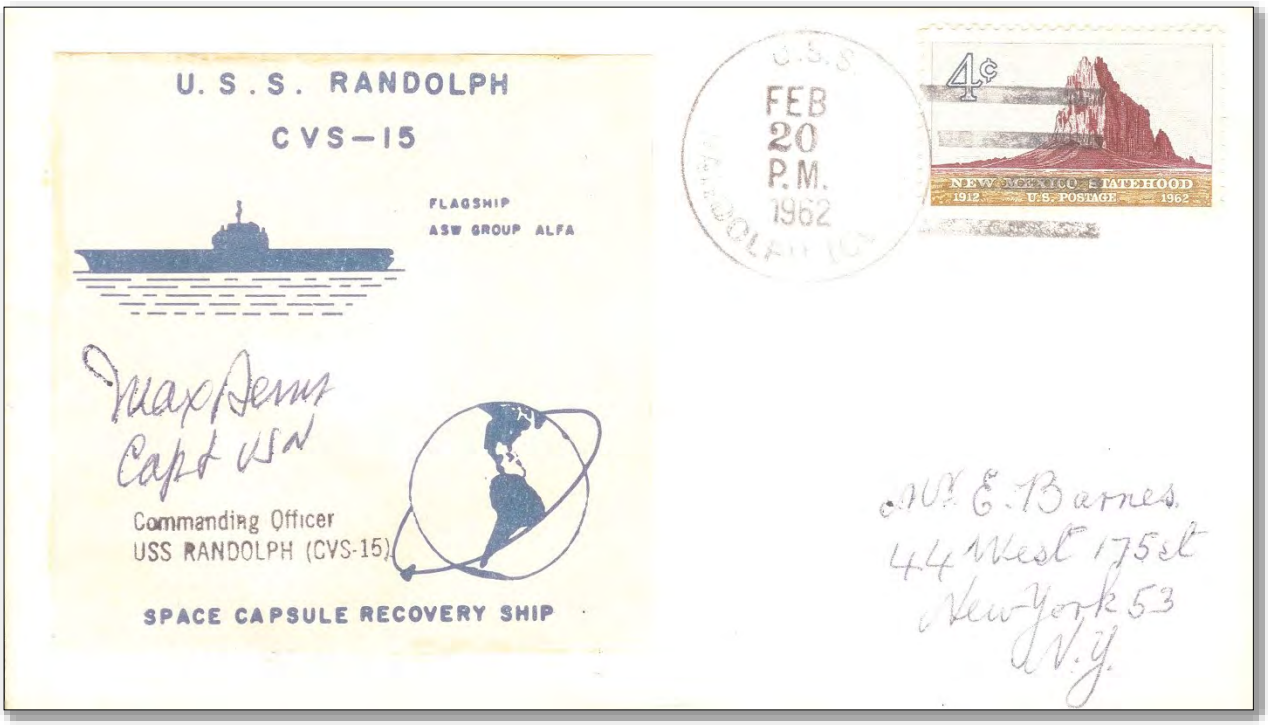
MA-5 Grand Turk Hand Cancel **29 Nov 1961**

Very early Mercury tracking station cover (six in existence).

MA-6 Patrick Air Force Base Machine and Hand Cancels **20 Feb 1962**

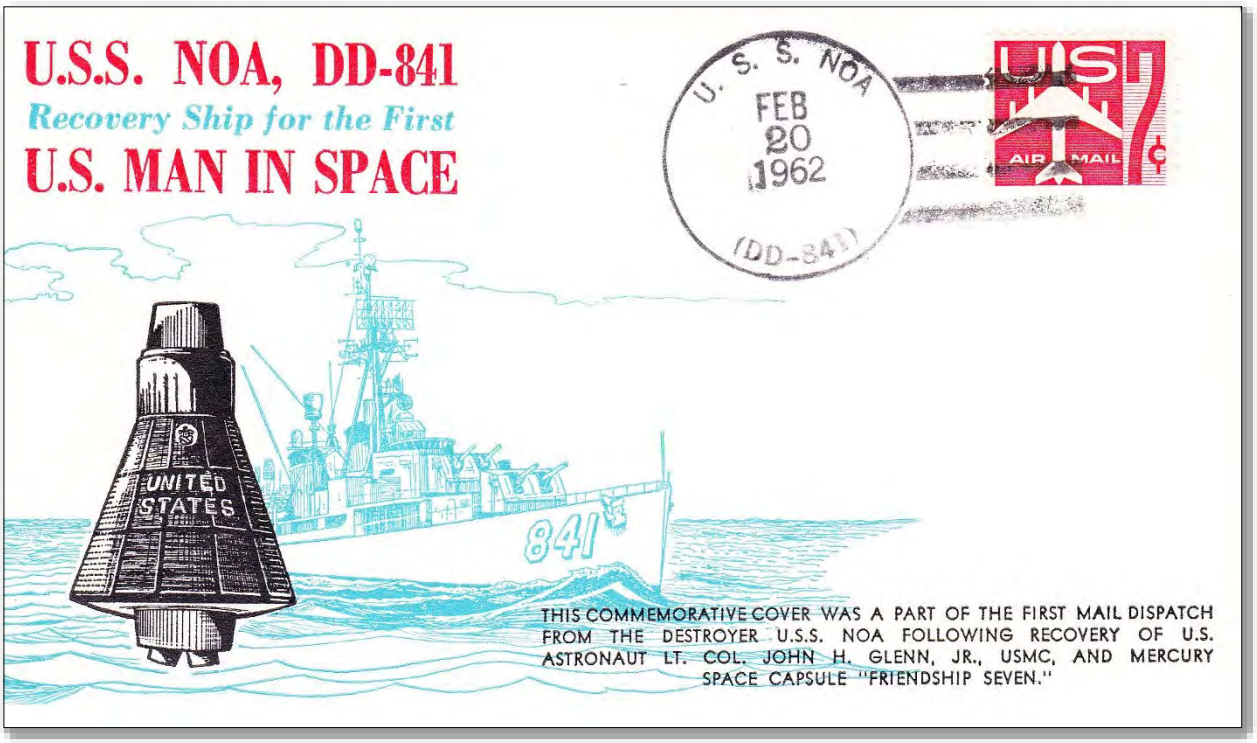
Glenn studied systems until the last possible minute before the flight. Shortly before bed on 19 Feb he read the flight controller's handbook on the automatic stabilization and control system.

MA-6 *USS Randolph* Hand Cancel **20 Feb 1962**



After the excitement of a questionable heat shield Glenn landed 40 miles short of the Prime Recovery Ship, shown here with a Captain's cover created for VIPs and the crew.

MA-6 *USS Noa* Backdated (?) Hand Cancel **20 Feb 1962**



Only six miles away was a destroyer code-named Steelhead. Previously believed to be genuine (since it had any stamp other than the Project Mercury issue). Perhaps the clerk simply ran out of Mercury stamps. No Project Mercury stamps were on board USS Noa. It made the recovery and backdated 300 covers on return to port.

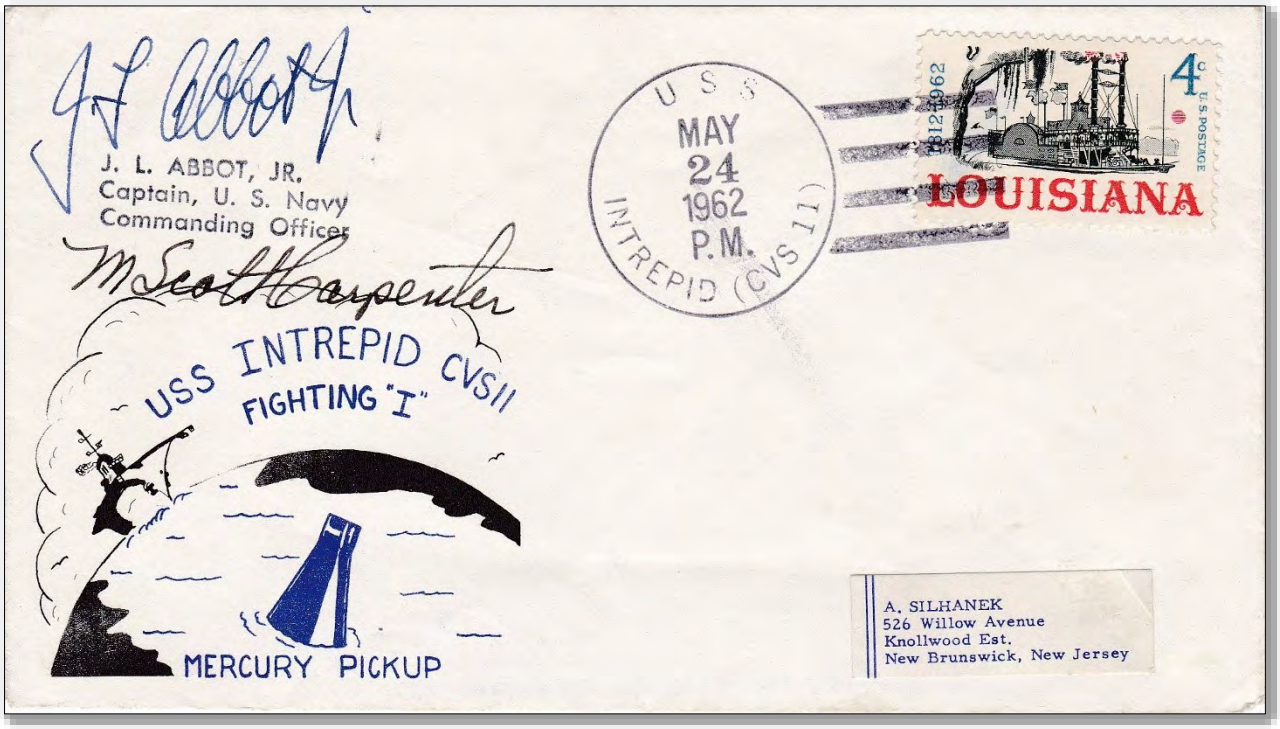
MA-6 *USS Noa* Hand Cancel **20 Feb 1962**

The pilot formally requested CAPCOM tell General David Shoup, Commandant of the Marine Corps, that three orbits should suffice for his minimal monthly requirement of four hours flight time.

MA-7 Port Canaveral Hand Cancel **24 May 1962**

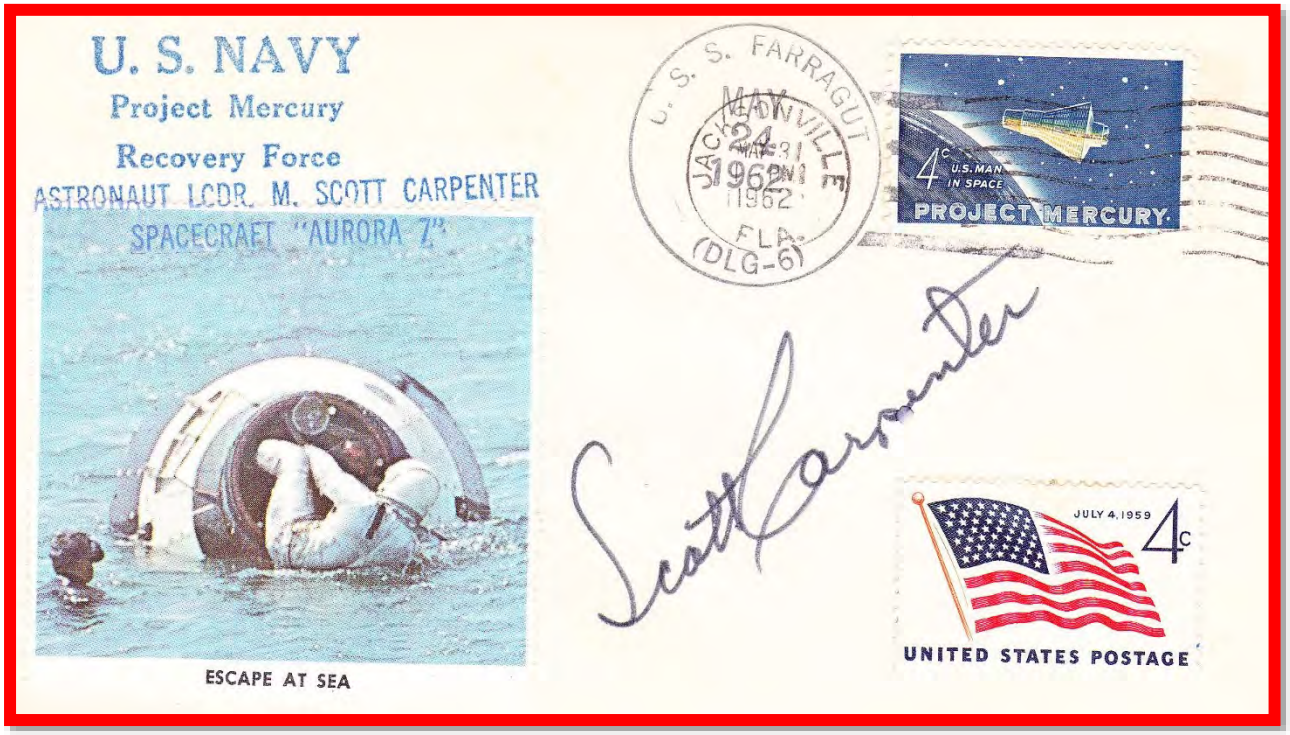
In March NASA announced that Deke Slayton had an irregular heart beat and would not fly. Since Carpenter worked closely as Glenn's back up he got the nod over Slayton's back up, Wally Schirra. A 30-inch Mylar balloon on a 100 foot nylon tether was planned to examine reflective properties of sections colored yellow, orange, white, uncolored aluminum, and phosphorescent (white by day, blue by night).

MA-7 USS Intrepid Hand Cancel **24 May 1962**



A Captain's cover from the designated PRS. A 190 mile overshoot gave Carpenter the chance to exercise his water survival skills.

MA-7 *USS Farragut* Hand Cancel **24 May 1962**



An exceedingly scarce cancel from the destroyer first on the scene. An Air Force sea-plane could have affected the rescue but was denied permis-sion to land by Mercury Mission Control.

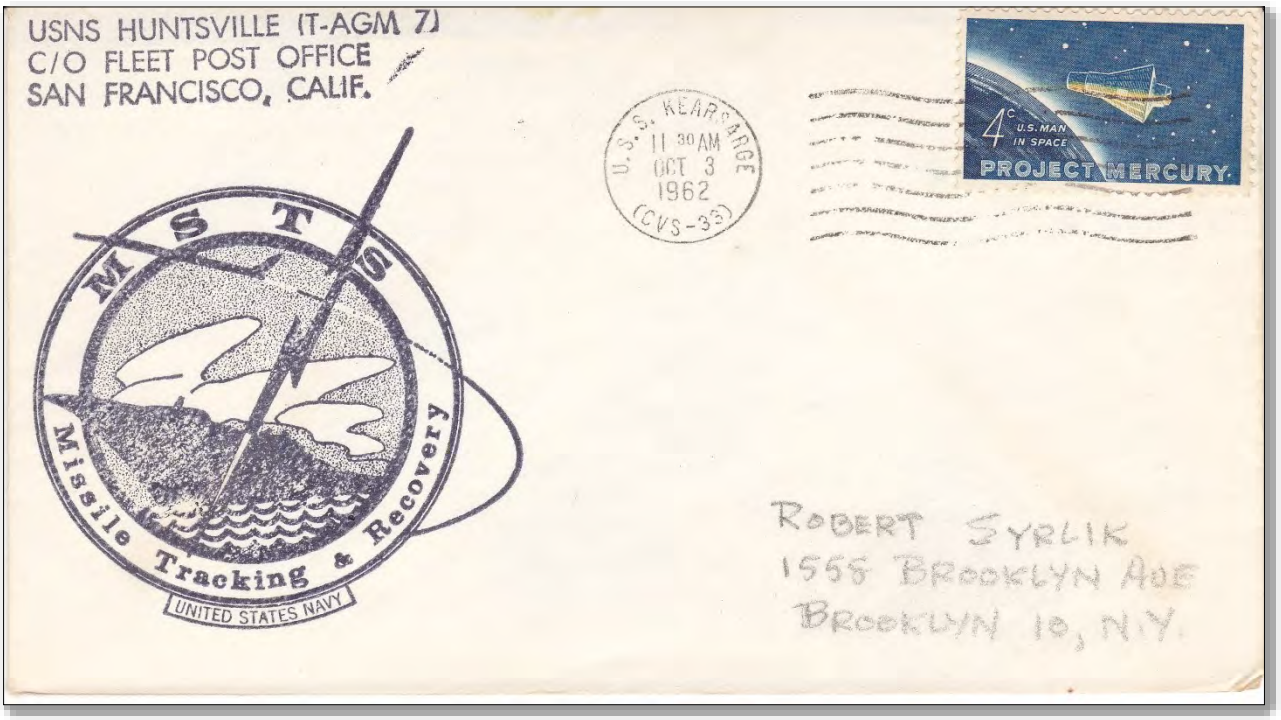
Charles Riser
SUSPECT
Hand Cancel

The pilot was rescued after three hours at sea. It would take 6 1/2 hours before spacecraft recovery equipment enabled USS John R. Pierce could reach the capsule.

MA-8 Patrick Air Force Base Machine Cancel **3 Oct 1962**

Glenn's flight had been exploratory and Carpenter's scientific. Wally Schirra's was an engineering flight with precise test pilot maneuvers with a goal to conserve fuel and electrical power.

MA-8 *USS Kearsarge* Type II Machine Cancel **3 Oct 1962**

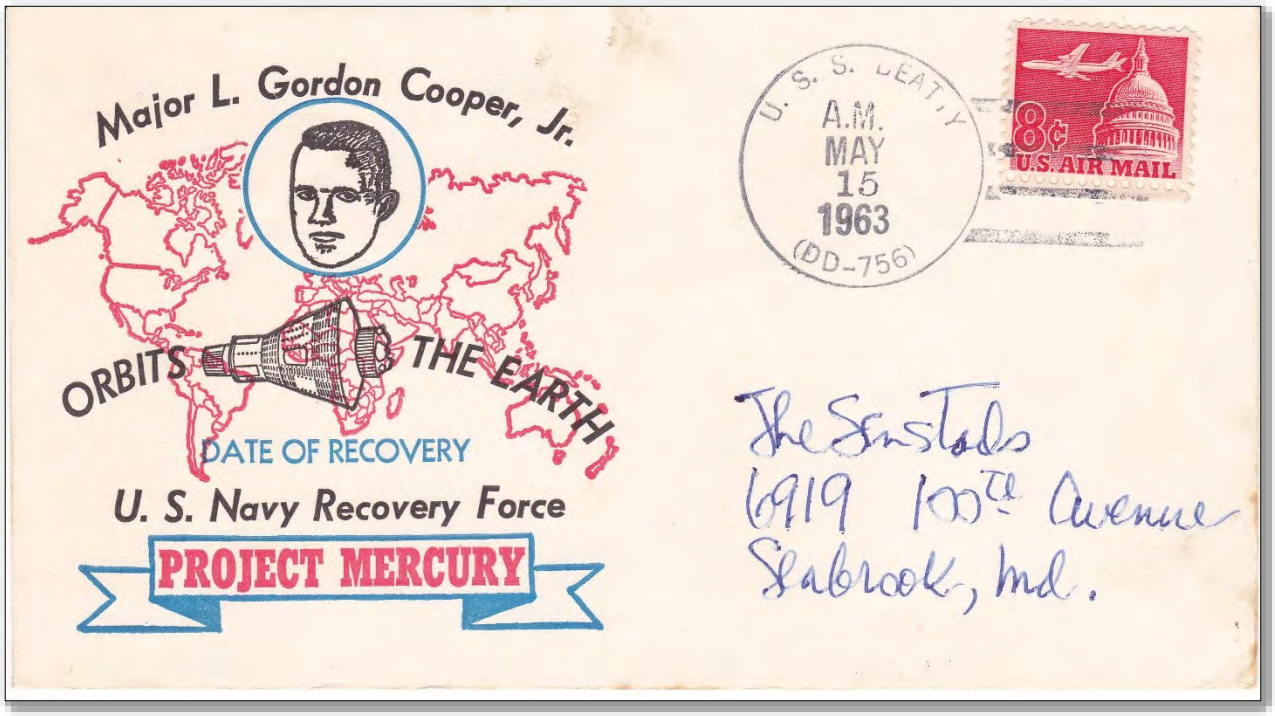


Tracking ships often lack their own postal facilities and receive cancels from larger vessels or upon return to port. Here postmarked on the Prime Recovery Ship.

MA-9 Cape Canaveral Machine Cancel **15 May 1963**

A well-known life insurance company subscribed to Cooper's faith by underwriting the first commercial astronaut policies, including one for Cooper.

MA-9 USS Beatty Hand Cancel **15 May 1963**

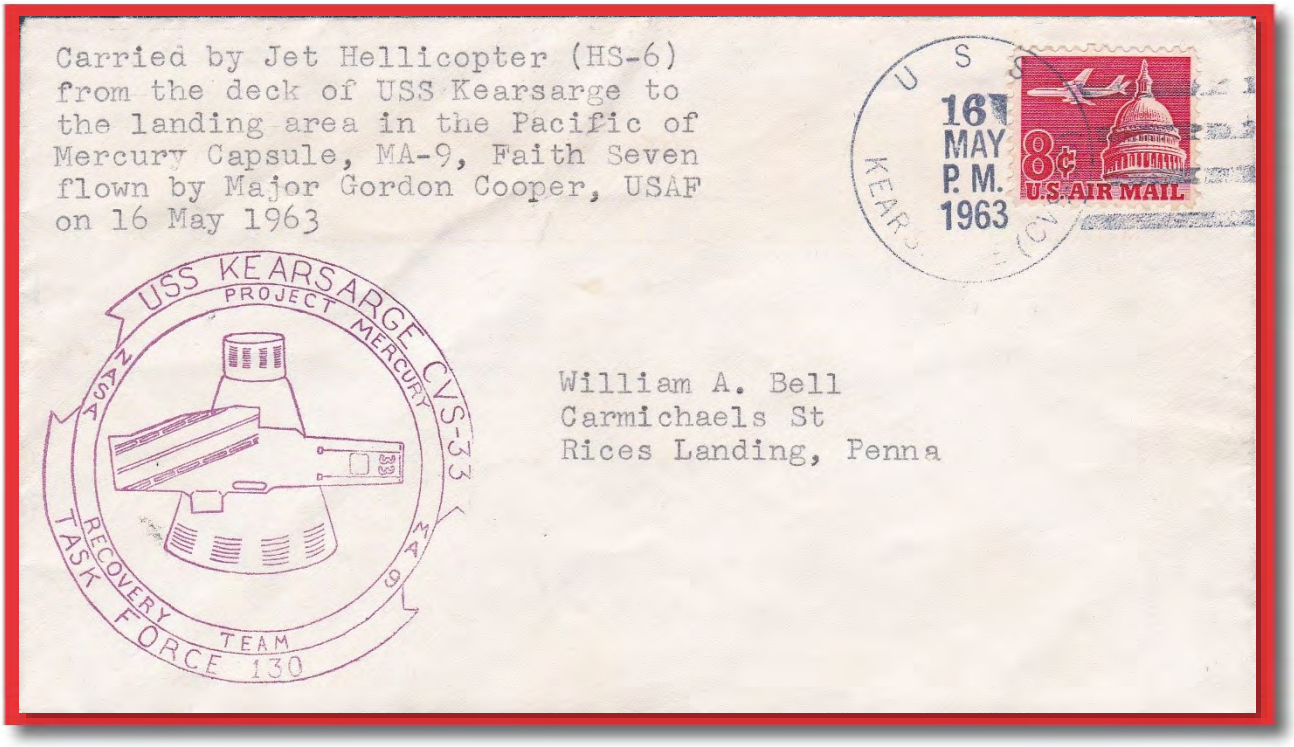


Secondary Recovery Ship on station to recover America's last solo astronaut. Seen here is a rare Beck's CREW (no number) cachet.

MA-9 *USS Kearsarge* Machine Cancel **16 May 1963**

This striking artwork, unfortunately, remains the artist's only space envelope design.

MA-9 *USS Kearsarge* Hand Cancel **16 May 1963**



Dating back to Grissom's first flight in 1961 envelopes have occasionally been carried of recovery aircraft. While this became fairly common in the Skylab era they remain rare during Mercury.

Project Gemini

"I feel red, white and blue all over."

Edward H. White II, June 1965

Project Gemini was an afterthought. In the late 50s the concept of a man riding a rocket to orbit slowly percolated in both military and civilian aerospace circles. A natural progression from mice to monkeys and on to man can inexorably be traced. These same groups dreamed of flying rings around the moon.

In May 1961, President Kennedy challenged the nation to land a man on the moon and return him safely to the earth. Alan Shepard had strapped on an Army Redstone missile for a 15 minute suborbital ride. He had traveled 302 miles while a trip to the moon would be a quarter of a million miles and take a week.

Moving from the theoretical to reliable hardware would require several important steps. The Russians were way ahead with heavy lift capability. We would need to ramp up booster development. We needed to move from a ballistic capsule to a piloted spacecraft, one that had precise navigation and control features. Another big problem to overcome was consumables – sufficient propellant, oxygen, water, and electricity to last for several days instead of a scant few minutes.

This was an age for new materials, processes and ideas. Real time complex computing, advances in inertial navigation, fuel cells that generate electricity and water all made great leaps. As an alternative to a massive direct ascent moon rocket, NASA created the requirement to control two missions at the same time, conduct extravehicular activities (space walks), and rendezvous and dock in space.

Some technologies would prove premature for the breakneck speed of the Space Race. The Parasail concept of a runway landing using the hang glider designed by Ragallo was shelved in favor of the well-tested and reliable parachute. Ejection seats used at altitude spawned a proposal for a cross between a balloon and a parachute (a ballute). It too would be put aside.

In two productive years Project Gemini flew 10 increasingly demanding manned missions. By its conclusion in 1966, NASA had accomplished long duration flight, deftly handled emergencies on the ground (Gemini VI) and in flight (Gemini VIII), and charted a path for Project Apollo.

Gemini-related

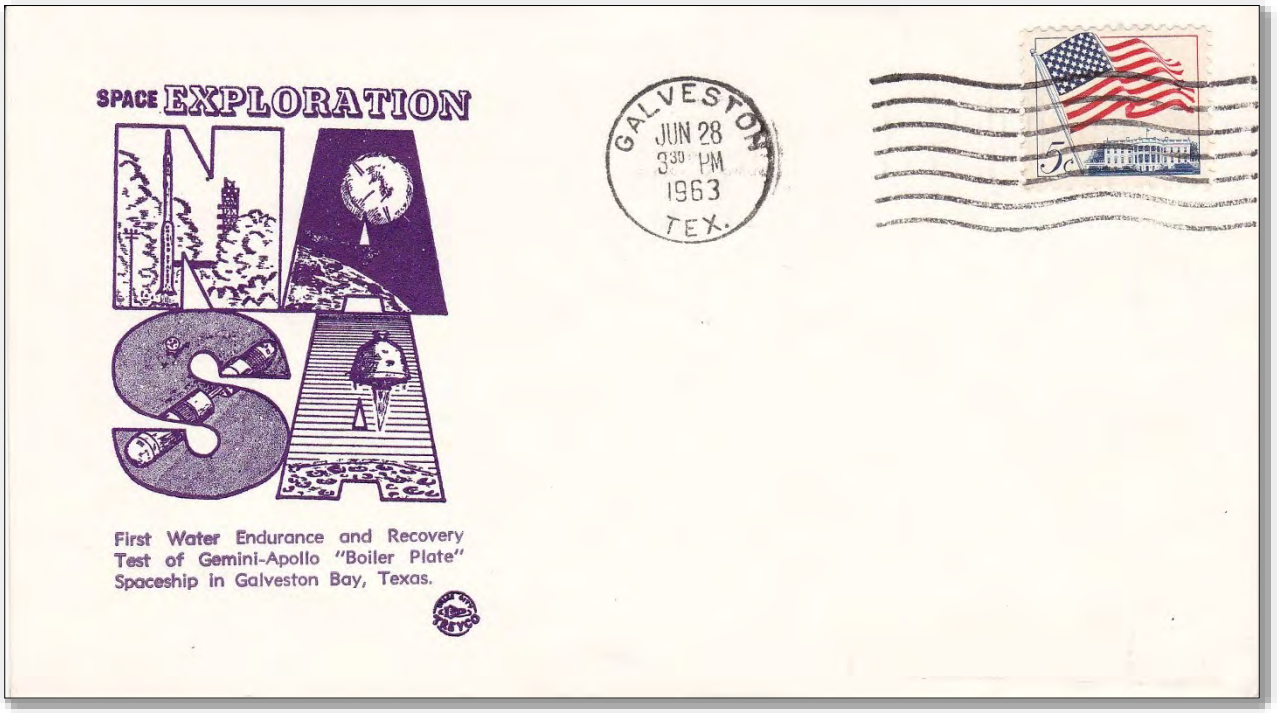
St Louis Hand Cancel

24 Jun 1963

McDonnell Aircraft built the Mercury spacecraft. When the Gemini program commenced they won the subsequent contract as well. A month after the conclusion of the Mercury flights (and 6 months before he resigned from NASA) John Glenn was in the trainer working on rendezvous and docking procedures.

The NASA Motor Vessel (MV) Retriever was a Landing Craft Utility (LCU) built for the U.S. Army in 1953. LCU-15301 was acquired from the Army in 1963. After modifications (the sides of the vessel's midsection were cut down, a new bridge built, and a hoist added), it arrived at its Seabrook, Texas docking facility near the NASA Manned Spacecraft Center (MSC) in June 1963. The modified Army LCU, painted NASA blue and white, was named "Retriever" to signify its mission of recovering spacecraft. The LCU was selected because its shallow draft, which allowed it to operate in Galveston Bay as well as in the Gulf of Mexico off of Galveston, Texas.

Gemini-related Galveston Machine Cancel **28 Jun 1963**

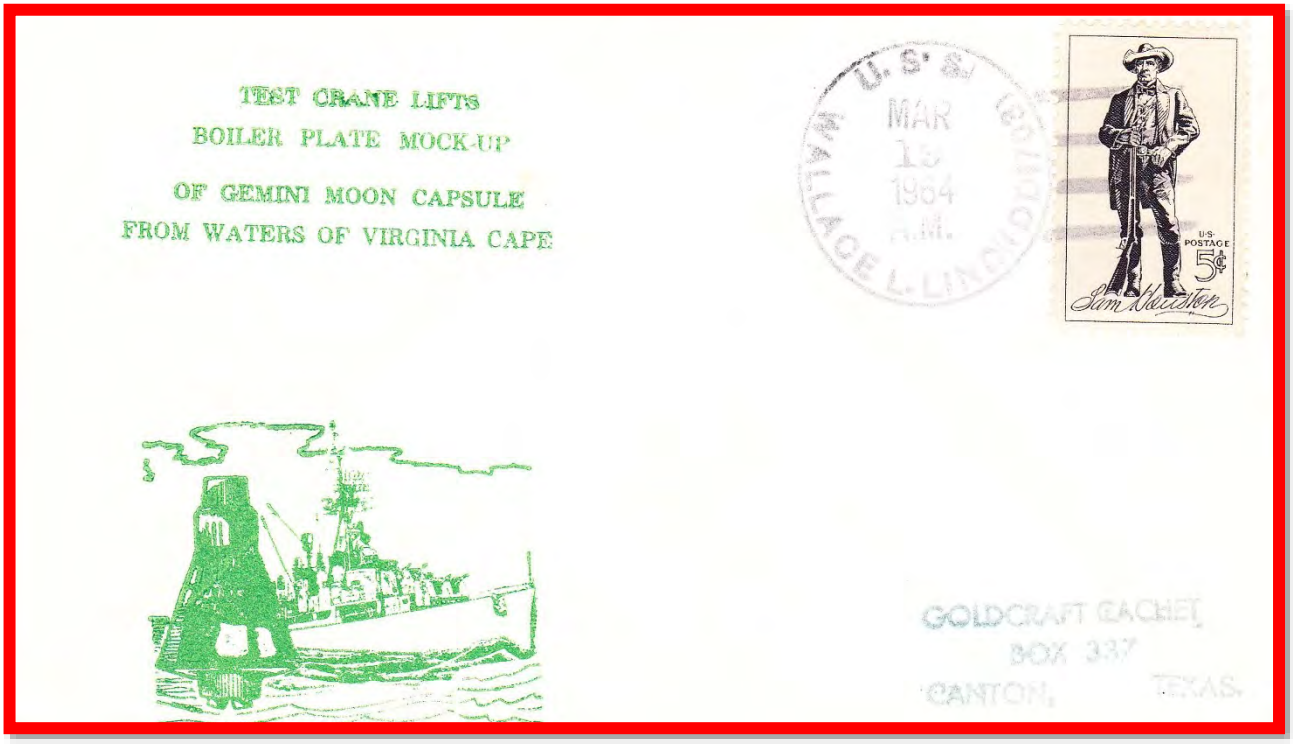


As an open sea test facility, Retriever was used for Gemini and Apollo spacecraft drop tests from aircraft, uprighting tests, flotation collar tests, and qualification of shipboard recovery equipment. It was also used to train all flight crews for post splashdown ocean recovery operations and water egress training from their Gemini spacecraft and Apollo command modules until 1972. With the cancellation of plans to land the Gemini spacecraft using an inflatable wing and skids, the US Navy resumed training to rescue and recover at sea. Here conducted aboard the USS Escape and postmarked on return to port at Norfolk.

Gemini-related Norfolk Machine Cancel **19 Mar 1964**

With cancellation of plans to land the Gemini spacecraft using an inflatable wing and skids, the US Navy resumed training to rescue and recover at sea. Here conducted aboard the USS Escape and postmarked on return to port at Norfolk.

Gemini-related *USS Wallace L. Lind* Hand Cancel **19 Mar 1964**

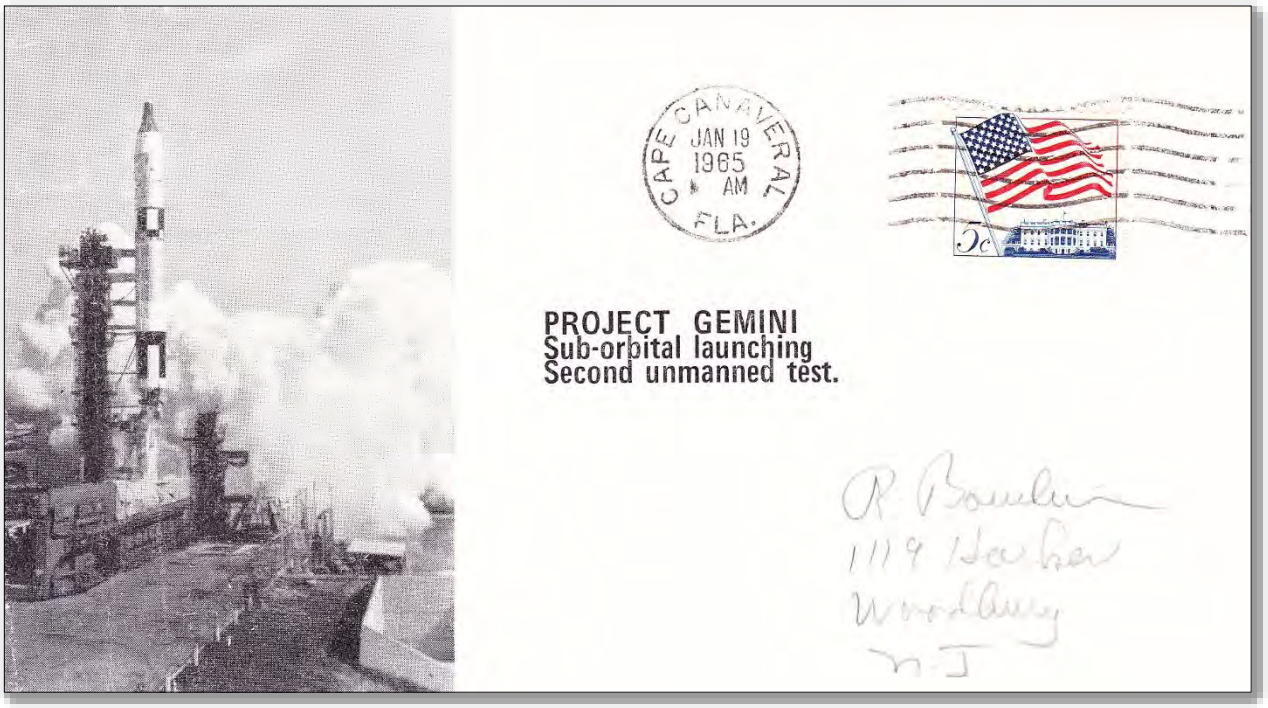


Hard to find cancel on Goldcraft artwork. A boilerplate is an object of the same size, weight and center of gravity as the actual spacecraft but without any real components. This makes them perfect for training recovery forces. Here the art shows the older Mercury capsule.

GT-1 Cape Canaveral Hand Cancel **8 Apr 1964**

The launch vehicle provided a bit too much speed and put the spacecraft into orbit with an apogee of 320 km instead of 299 km. Although it was equipped with a heat shield, the capsule had four large holes drilled into it to ensure it would be destroyed during reentry.

GT-2 Cape Canaveral Machine Cancel **19 Jan 1965**



After dodging two hurricanes during the second half of 1964 the launch vehicle was scheduled to lift off 9 Dec. The countdown clock reached zero and the engines ignited. A loss of hydraulic pressure shut them down after one second. Finally, on 19 Jan it roared skyward.

GT-2

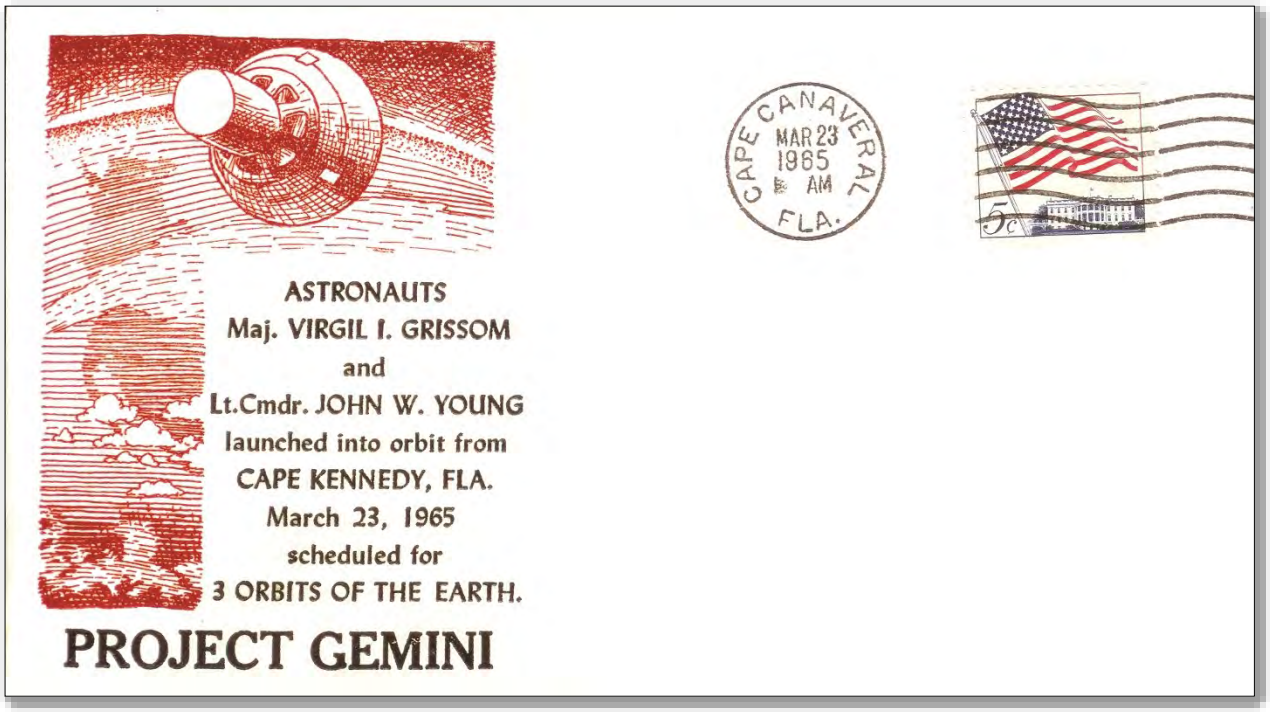
USS Lake Champlain

Machine Cancel

19 Jan 1965

Crew mail from an officer to his girlfriend. In the enclosed letter he refers to recovery of the unmanned Gemini capsule. He also tells her to save the envelope since all the philatelic mail received the Hand Cancel. A very rare Machine Cancel is shown.

GT-3 Cape Canaveral Machine Cancel **23 Mar 1965**

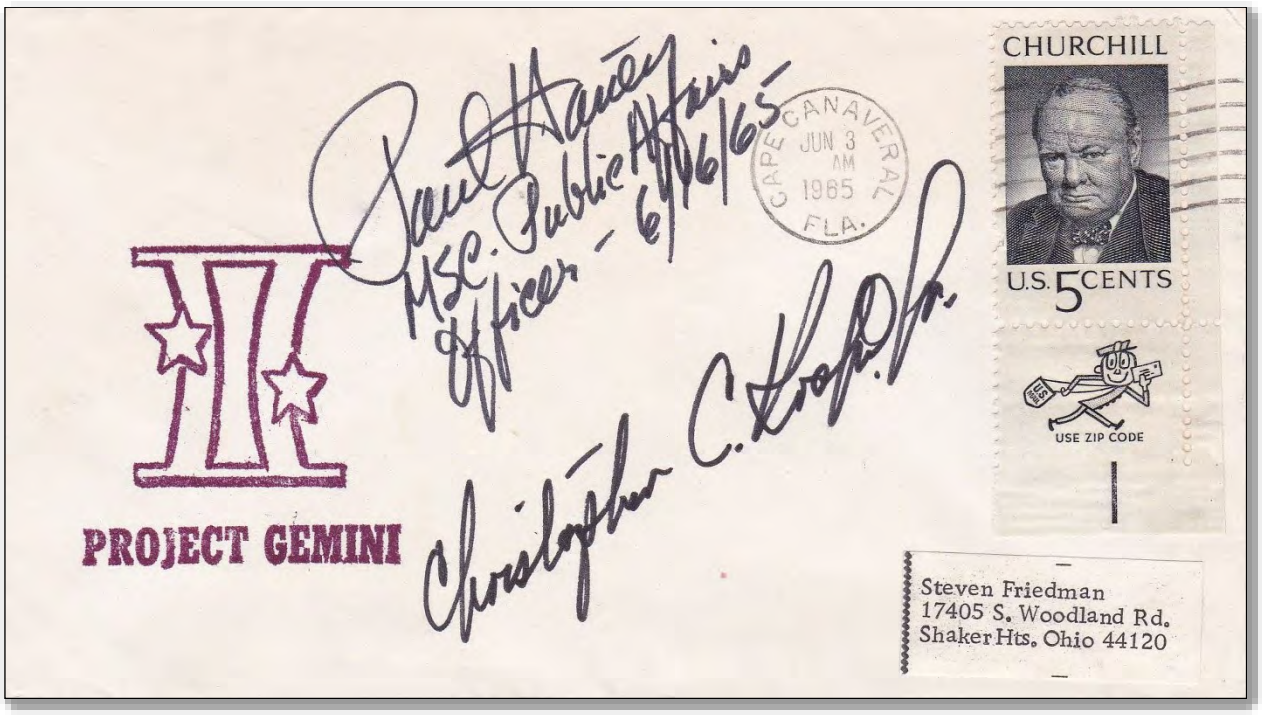


Over Corpus Christi, Texas, at the end of the first revolution the astronauts fired engines to change the orbit from 161 km x 224 km to an orbit of 158 km x 169 km. The first such maneuver in history.

GT-3 *USS Intrepid* Machine Cancel **23 Mar 1965**

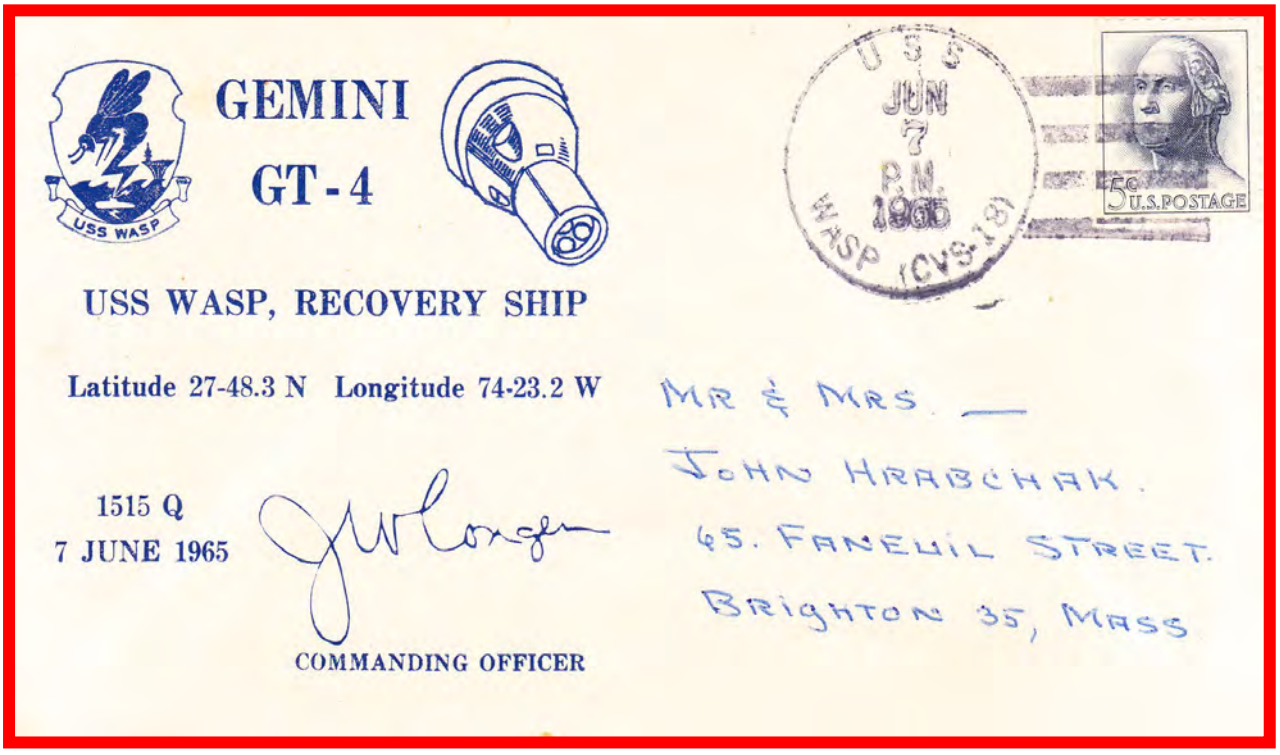
Crew mail from the Prime Recovery Ship. Wind tunnel testing incorrectly predicted the craft's ability to compensate for course deviation. This resulted in the spacecraft (with a half-eaten corned beef sandwich) landing 84 km short of the intended spashdown point.

GT-IV Cape Canaveral Machine Cancel **3 Jun 1965**



Plan for this four-day, 62-orbit mission was to fly in formation with the spent Titan II second stage. After using up half the fuel thrusting forward only to move farther away, they gave up. The highlight was the first American spacewalk. Tied to a tether and using a handheld "zip gun," Ed White floated for 22 minutes. At its conclusion, White said, "It's the saddest moment of my life."

GT-IV *USS Wasp* Hand Cancel **7 Jun 1965**



A very scarce Hand Cancel on a Captain's cover. The artwork was prepared at the direction of the Commanding Officer to celebrate the honor of leading the rescue effort, and was available only to Distinguished Visitors and the crew.

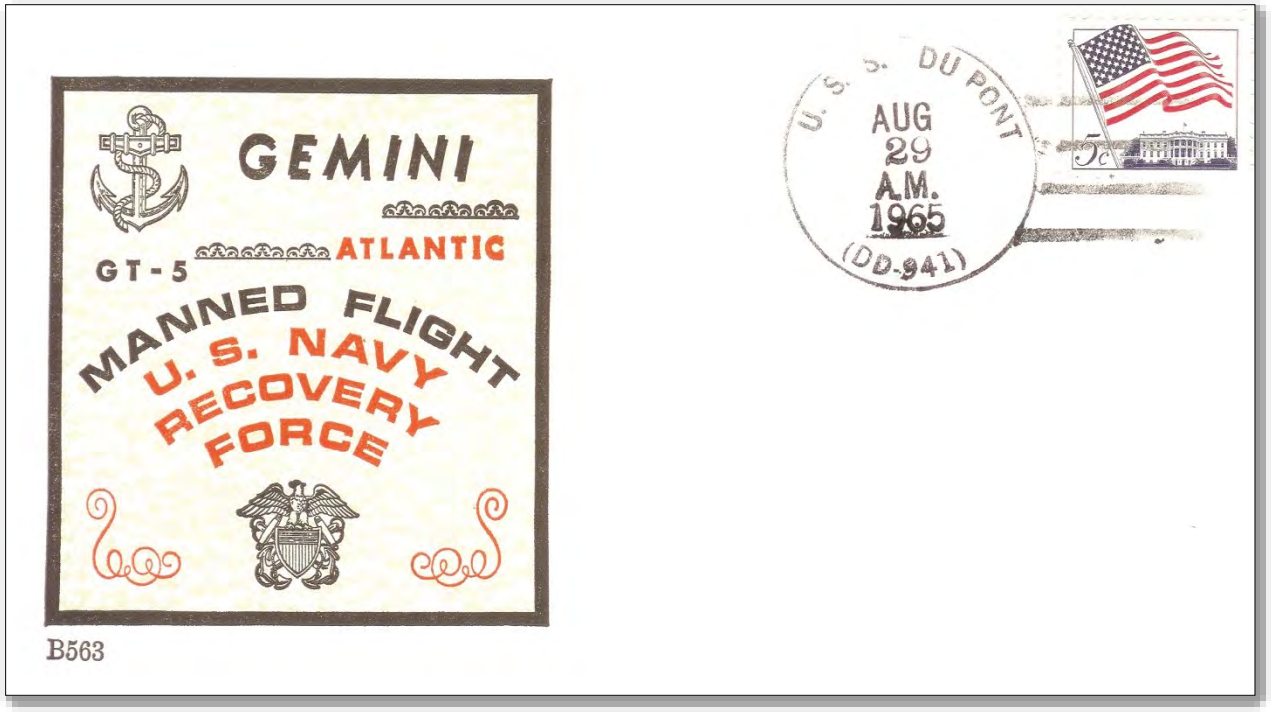
GT-V Kennedy Space Center Machine Cancel **21 Aug 1965**

Beginning with Gemini V, the newly minted Kennedy Space Center began providing KSC Official rubber stamp cachets for manned launches and continued through the end of Apollo.

GT-V Freeport Hand Cancel **23 Aug 1965**

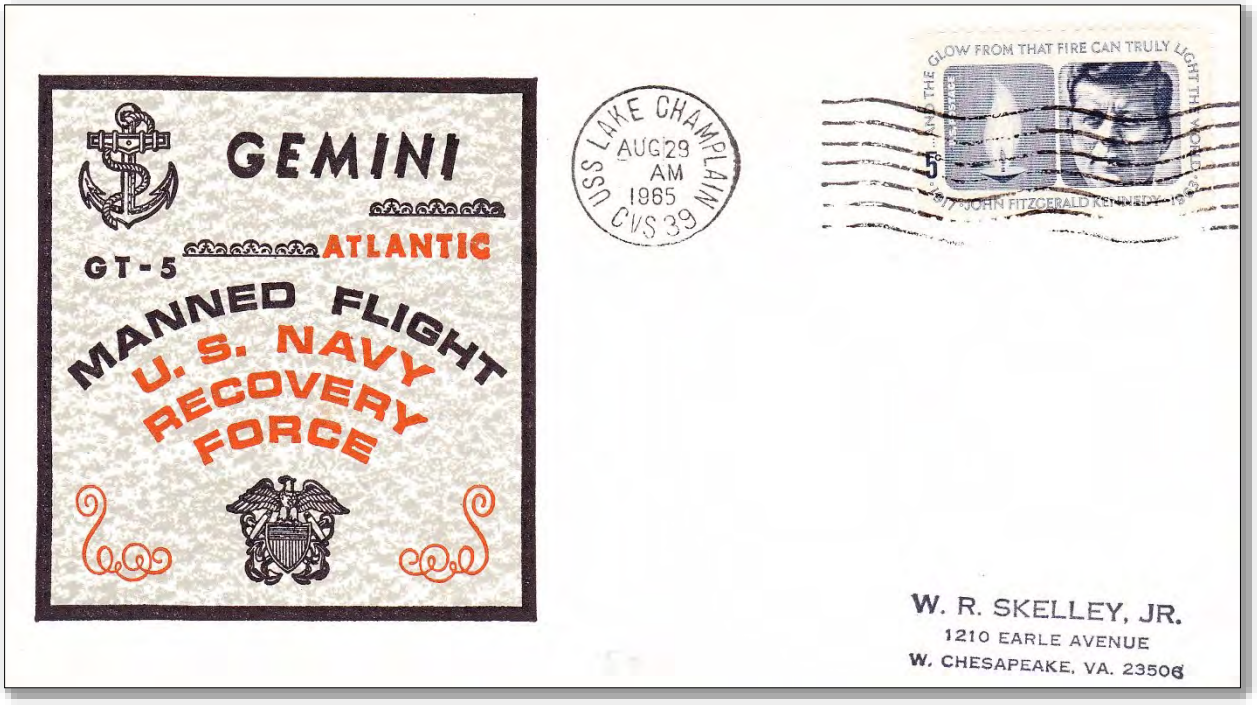
Grand Bahamas Island, located just 90 miles east of Florida, was a key component of the Eastern Test Range and the Gemini network. Here "Range Rats" have signed a mid-mission envelope recognizing the flight.

GT-V *USS Du Pont* Hand Cancel **29 Aug 1965**



The crew was rescued by a helicopter from the USS Du Pont. Is the recovery ship the one that retrieves the spacecraft or the crew? Does it matter that the astronauts were flown to the USS Lake Champlain and not the vessel that the aircraft was assigned to?

GT-V *USS Lake Champlain* Machine Cancel **29 Aug 1965**

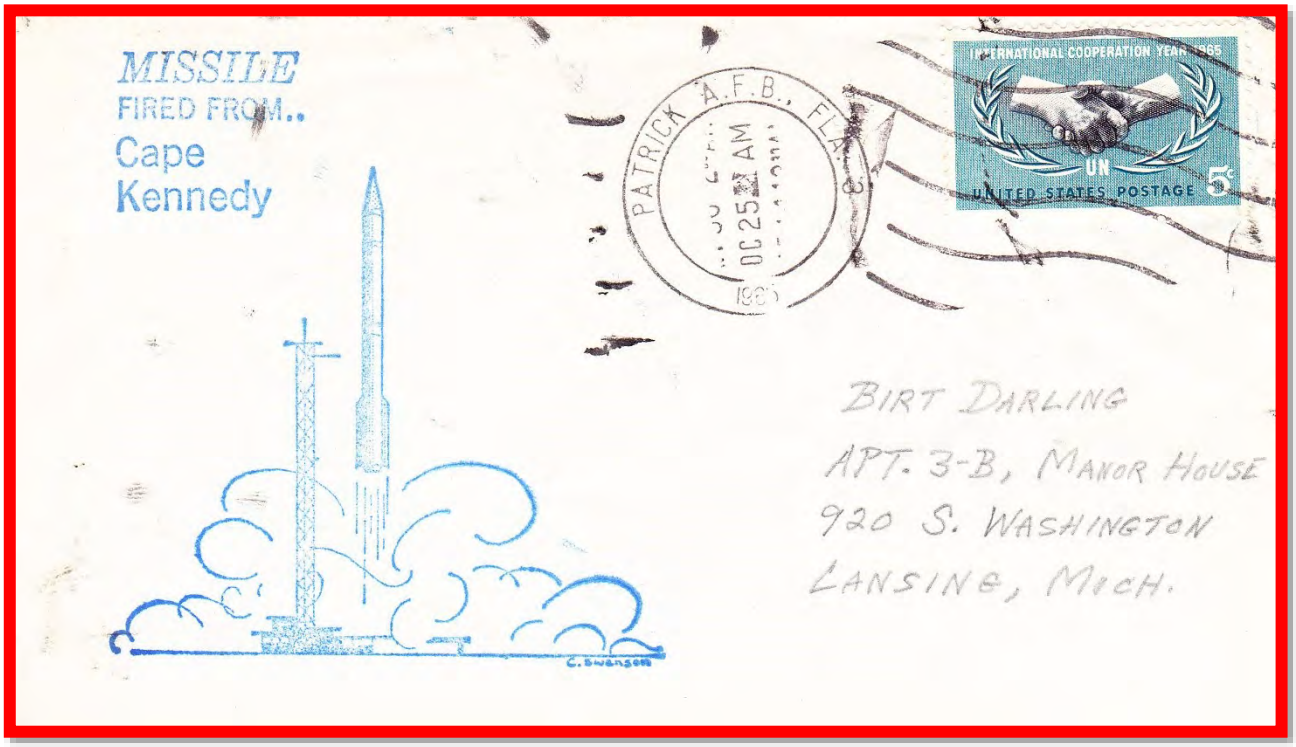


Rare Beck Crew cover (25 produced) from the Prime recovery ship.

GT-VI Kennedy Space Center Machine Cancel **25 Oct 1965**

Although this was the maiden voyage in Project Gemini, Agena had flown on more than 140 missions since 1959. Here the KSC Official cachet is joined by Goldey artwork. Within minutes after the 10 o'clock launch, indications at Mission Control in Houston were that something was wrong with the booster. The Agena seemed to be wobbling, even as its attitude control system labored to keep it stable.

GT-VI Patrick Air Force Base Hand Cancel **25 Oct 1965**



Very scarce Patrick AFB Roller Cancel. Officials responsible for the Eastern Test Range conducted a hasty study of partial telemetry data from the booster. No clear indication of the failure surfaced.

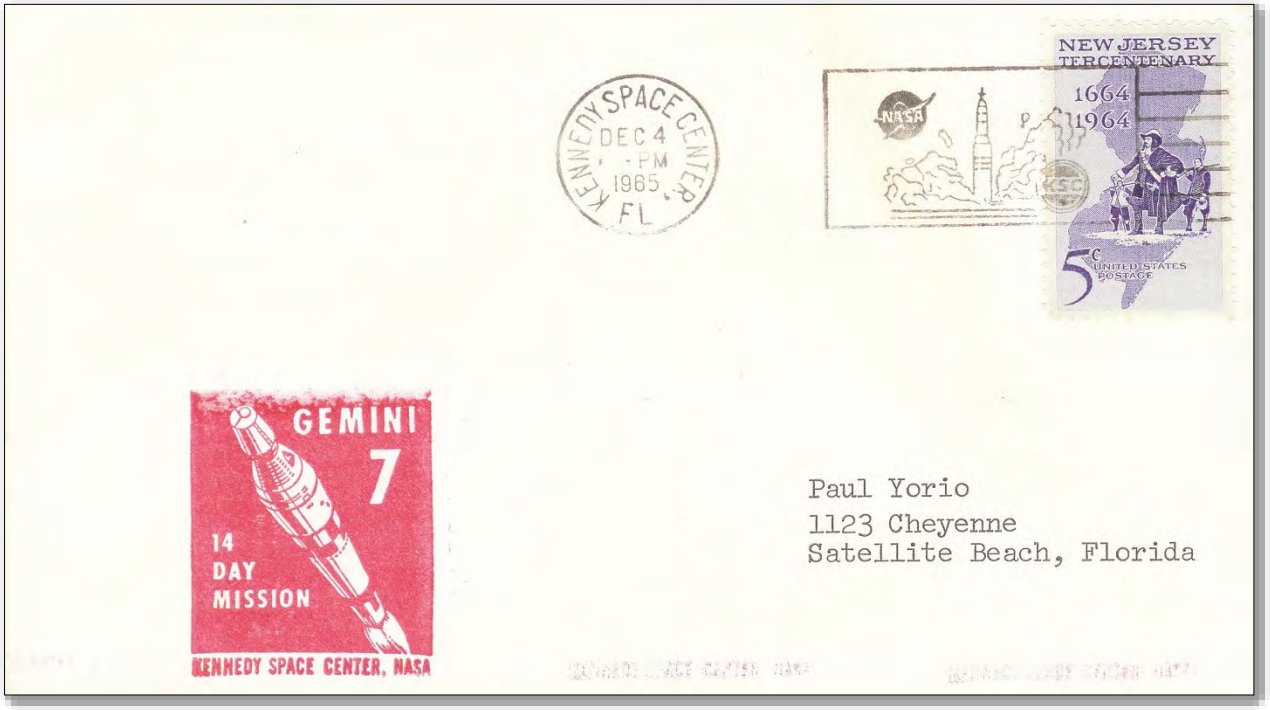
GT-VI Port Hueneme Machine Cancel **25 Oct 1965**

Throughout the US manned space program control centered on ground based facilities and personnel. Onboard computers were nascent (or non-existent) and analysis and decision making so complex that thousands participated. To receive spacecraft data (downlink) and transmit instructions (uplink) a continuous worldwide network of transmitters and receivers were required. Since these were "line of sight" ships were required to supplement ground based tracking stations.

GT-VI *USS Wasp Hand Cancel* **25 Oct**

What appears to be a test impression (no stamp) on what would have been the Prime Recovery Ship. Artwork by Morris Beck is joined by a ship design on aircraft stationary.

GT-VII Kennedy Space Center Machine Cancel **4 Dec 1965**

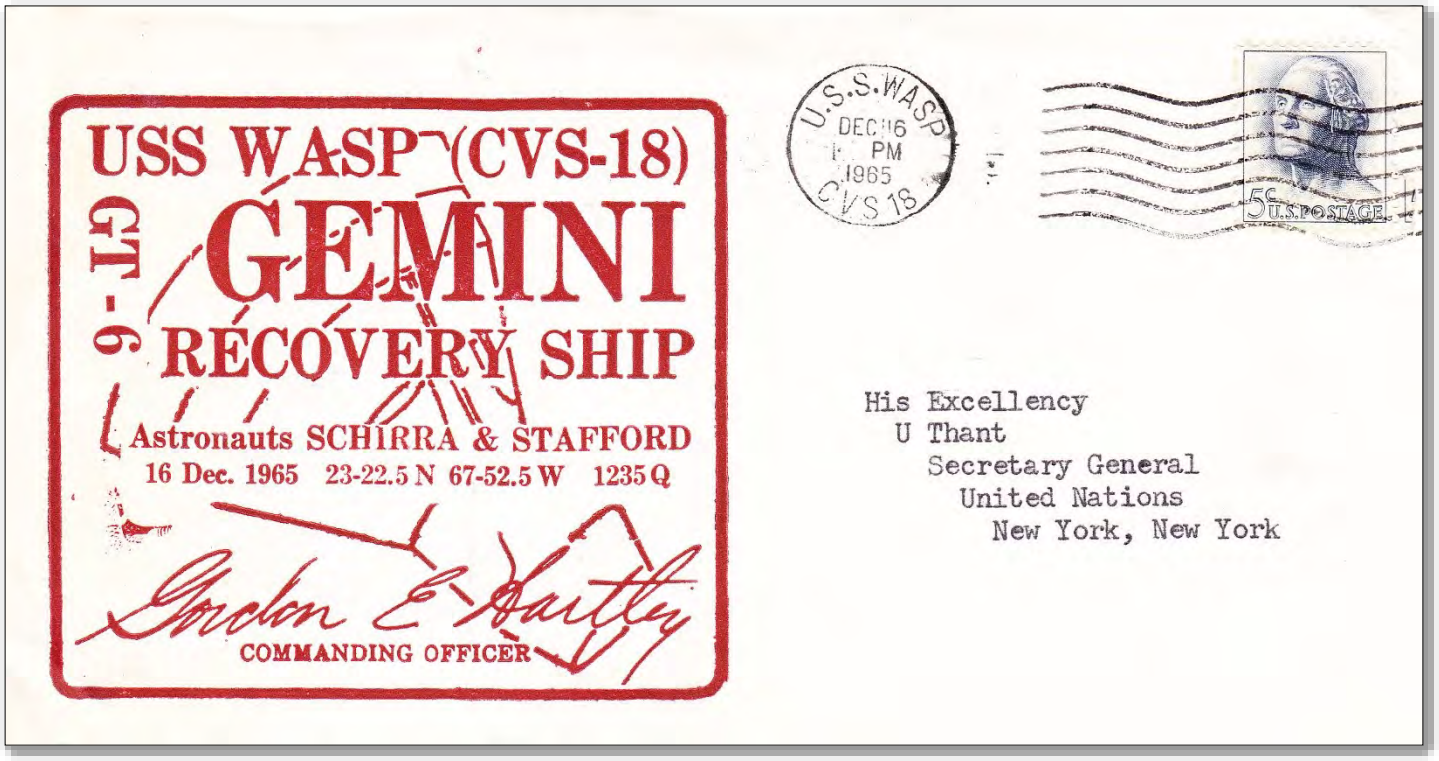


This KSC Official addressed the founder of the KSC Philatelic Society. This grueling flight was designed to test whether man and machine could fly for two weeks. A new, lightweight spacesuit proved critical as did taking books for pleasure to pass the time.

GT-VI Kennedy Space Center Machine Cancel **15 Dec 1965**

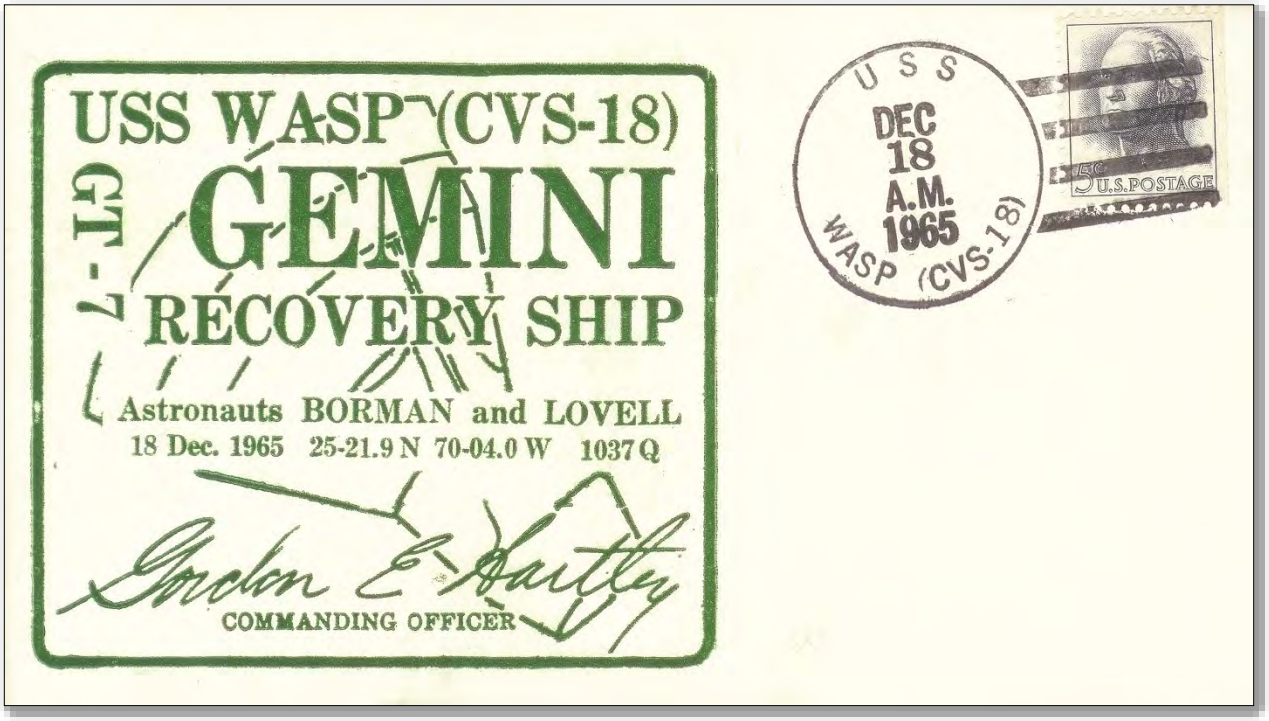
Following the braking and translation maneuver, VI-A coasted until the two vehicles were 40 meters apart, with no relative motion between them. They flew in formation for five hours, at times within 30 cm of each other. For the first time true rendezvous had been achieved.

GT-VI-A *USS Wasp* Machine Cancel **16 Dec 1965**



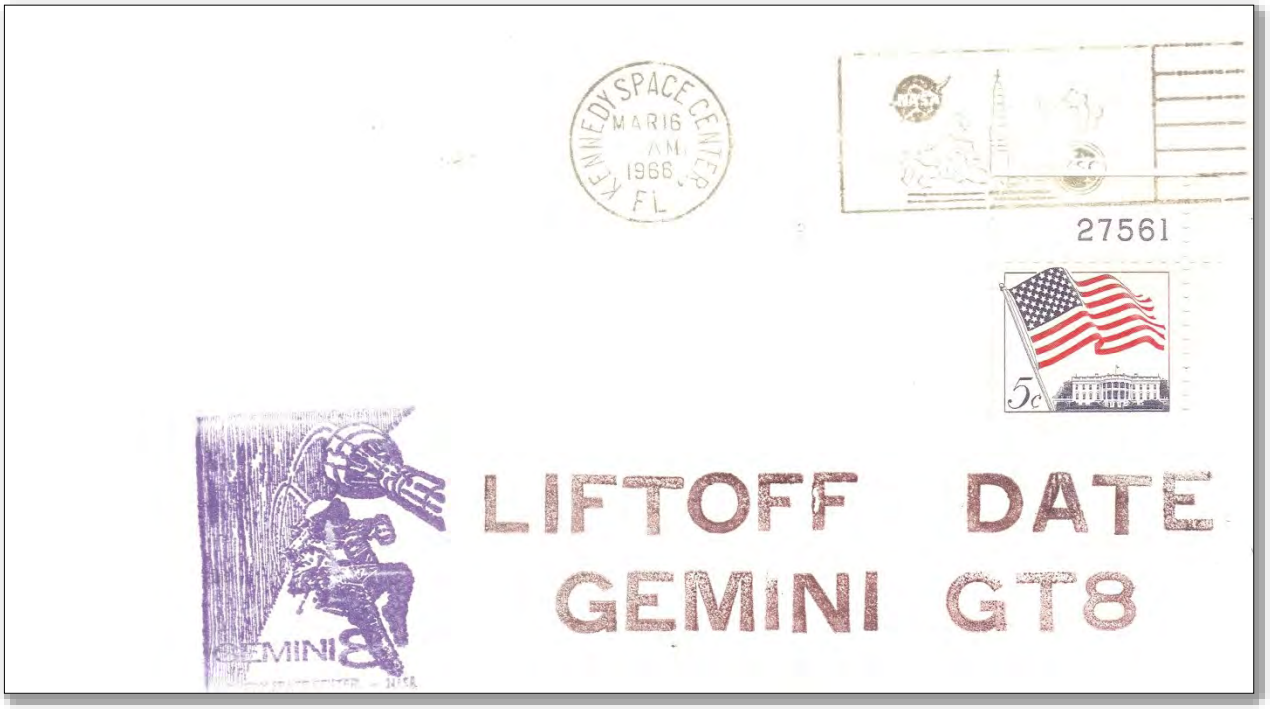
Landing 13 km from the planned impact point, GT-VI-A recorded the first successful controlled reentry, commemorated here with a Captain's cover addressed to the UN Secretary General.

GT-VII *USS Wasp* Hand Cancel **18 Dec 1965**



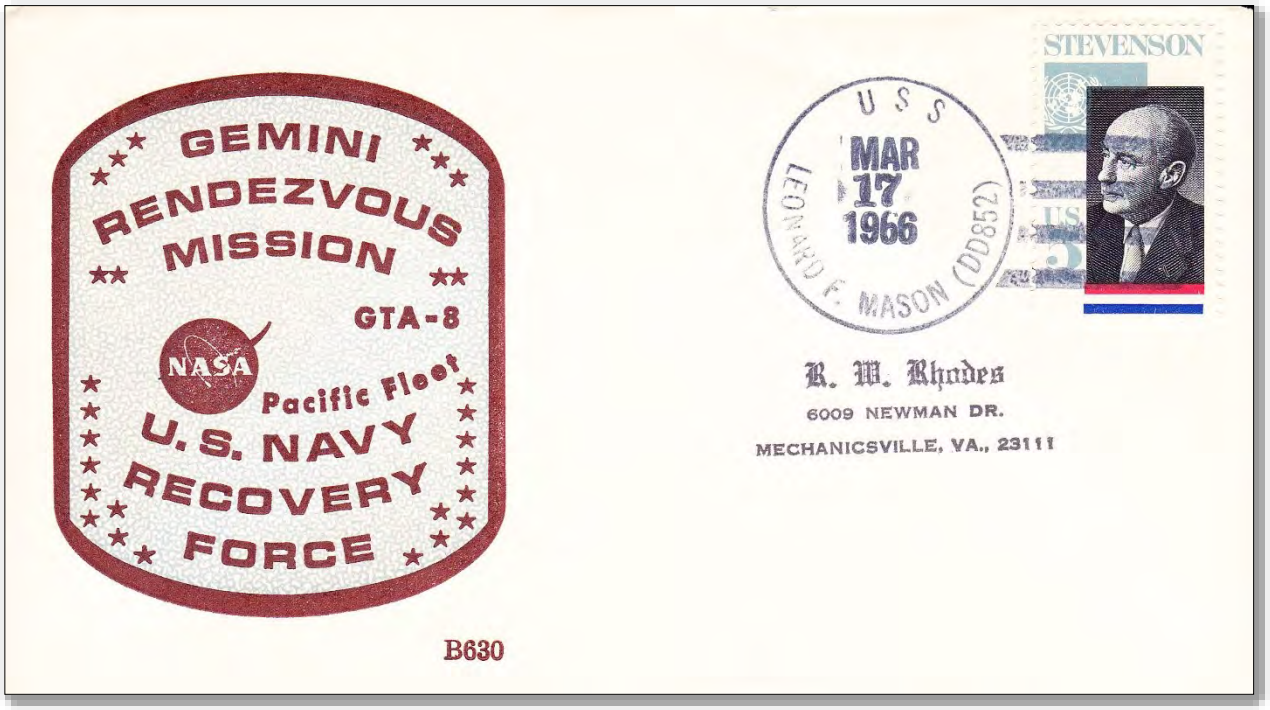
A Captain's cover for GT-VII. On this day Robert Gilruth held a post-recovery press conference in which he declared "A fabulous year for manned space flight." Since March NASA had put 10 men in orbit, performed EVA, conducted eight- and 14-day flights and accomplished a rendezvous.

GT-VIII Kennedy Space Center Machine Cancel **16 Mar 1966**

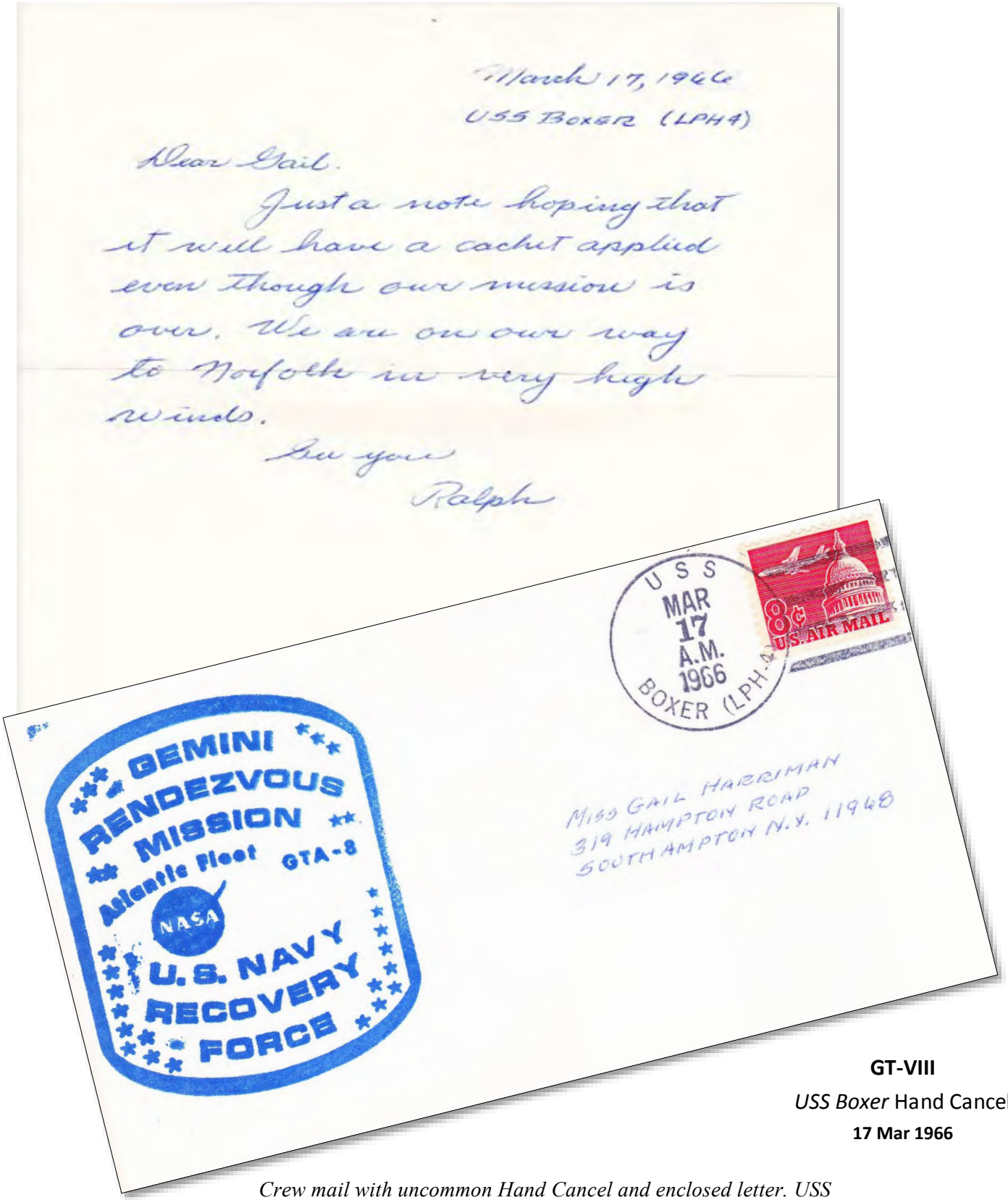


As the KSC Official artwork illustrates, the two objectives were to dock with the Agena and perform a two -hour spacewalk. This was to be the first orbital docking ever. Easing the last few feet at three inches per second, Neil Armstrong reported his progress through Rose Knot Victor to Mission Control. "Flight, we are docked! It's a real ... really a smoothie – no noticeable oscillations at all."

GT-VIII *USS Leonard F. Mason* Hand Cancel **17 Mar 1966**



Following the brief 11-hour flight that aborted the planned spacewalk, the crew ditched 800 km east of Okinawa in the Pacific instead of the planned Atlantic recovery. Here an uncommon Beck cachet from the destroyer that made the rescue.



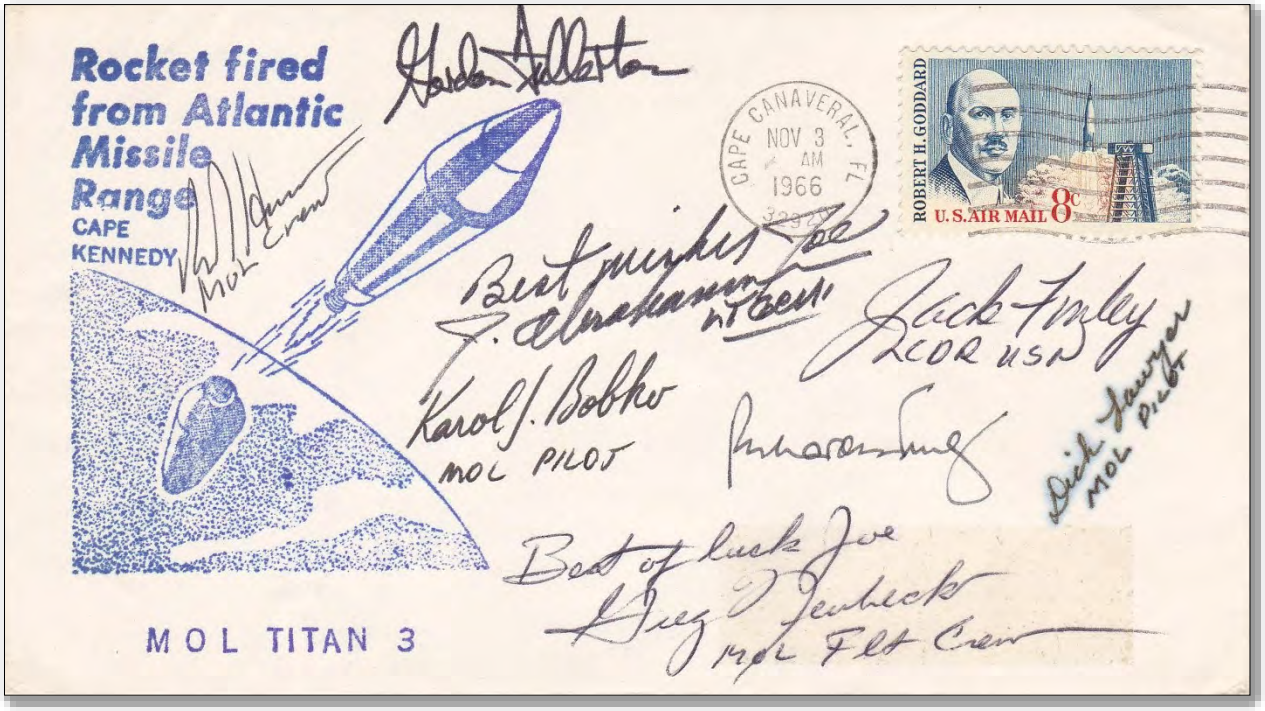
GT-VIII

USS Boxer Hand Cancel

17 Mar 1966

Crew mail with uncommon Hand Cancel and enclosed letter. USS Boxer was the Designated Prime Recovery Ship (PRS) but a stuck thruster forced Neil Armstrong and David Scott to abort their mission and land in the Pacific Ocean instead. To add insult to injury, the ship returns to Norfolk both empty-handed and in foul weather.

MOL Cape Canaveral Machine Cancel **3 Nov 1966**



For years the Air Force worked to create a military capability in space. Dyna-Soar morphed into the X-20 which died under Defense Secretary McNamara. In this Blue Gemini plan USAF astronauts would spend 30 days in the attached booster, conducting reconnaissance. Of 17 selected there were 14 at the time the program was cancelled. The half below the age of 35 were absorbed into NASA and all flew on the Space Shuttle.

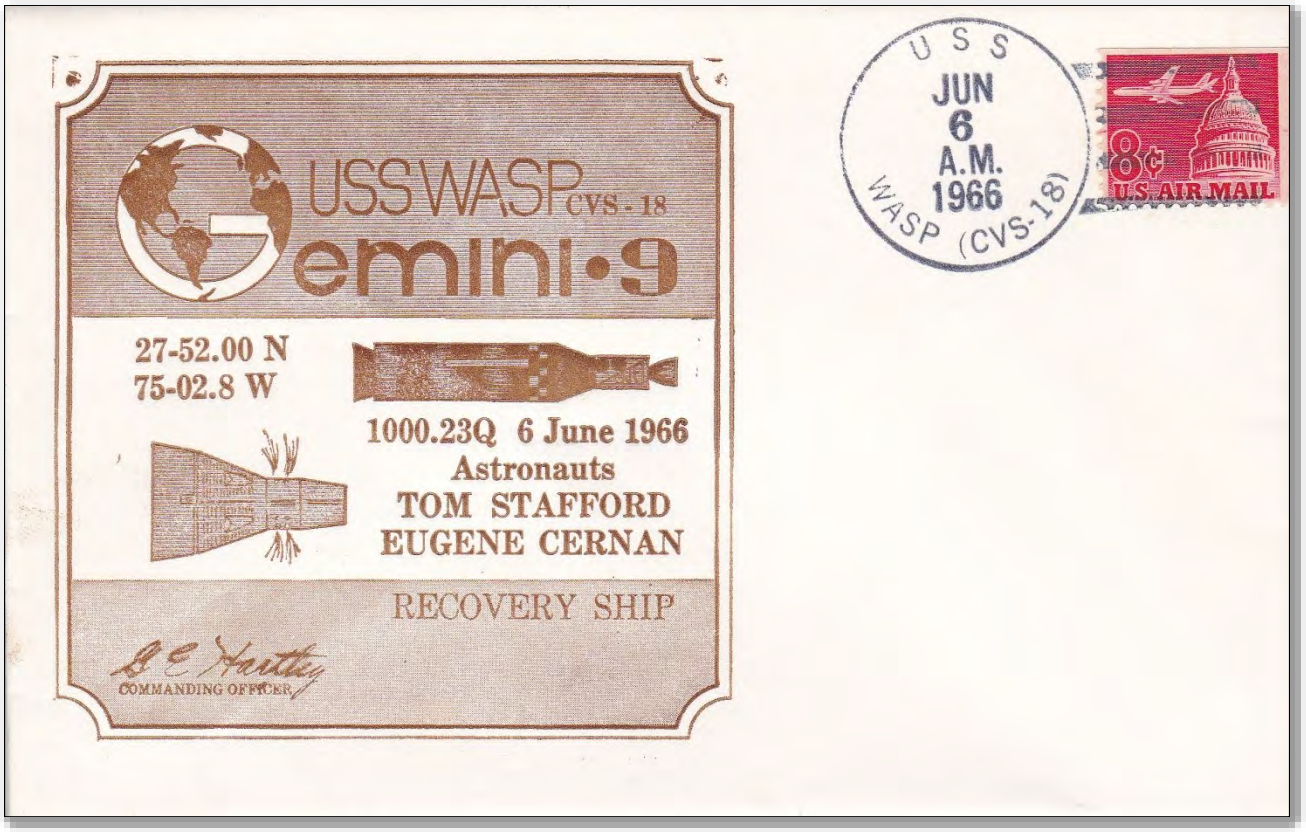
MOL *USS La Salle* SUSPECT Hand Cancel **3 Nov 1966**

Eager to supply the well-paying need for rare postmarks, Charles Riser produced highly accurate forgeries that included autographs. A hallmark is the embossed postage.

GT-IX-A Kennedy Space Center Machine Cancel **3 Jun 1966**

The Prime crew, See and Bassett, died when bad weather caused their jet to crash into the building constructing their spacecraft. The backup crew, Stafford and Cernan, would make the flight. As Cernan performed his EVA his faceplate fogged, his heart rate soared at 195 beats per minute, and doctors feared Cernan would pass out. With this the EVA ended.

GT-IX-A USS Wasp Hand Cancel **6 Jun 1966**



With the carrier in view Stafford and Cernan opened both hatches and enjoyed the gentle rolling sea. Then they stuck out their thumbs to hitch a ride home. This Captain's cover artwork is found on various envelope sizes.

GT-X

Kennedy Space Center
Machine Cancel

18 Jul 1966

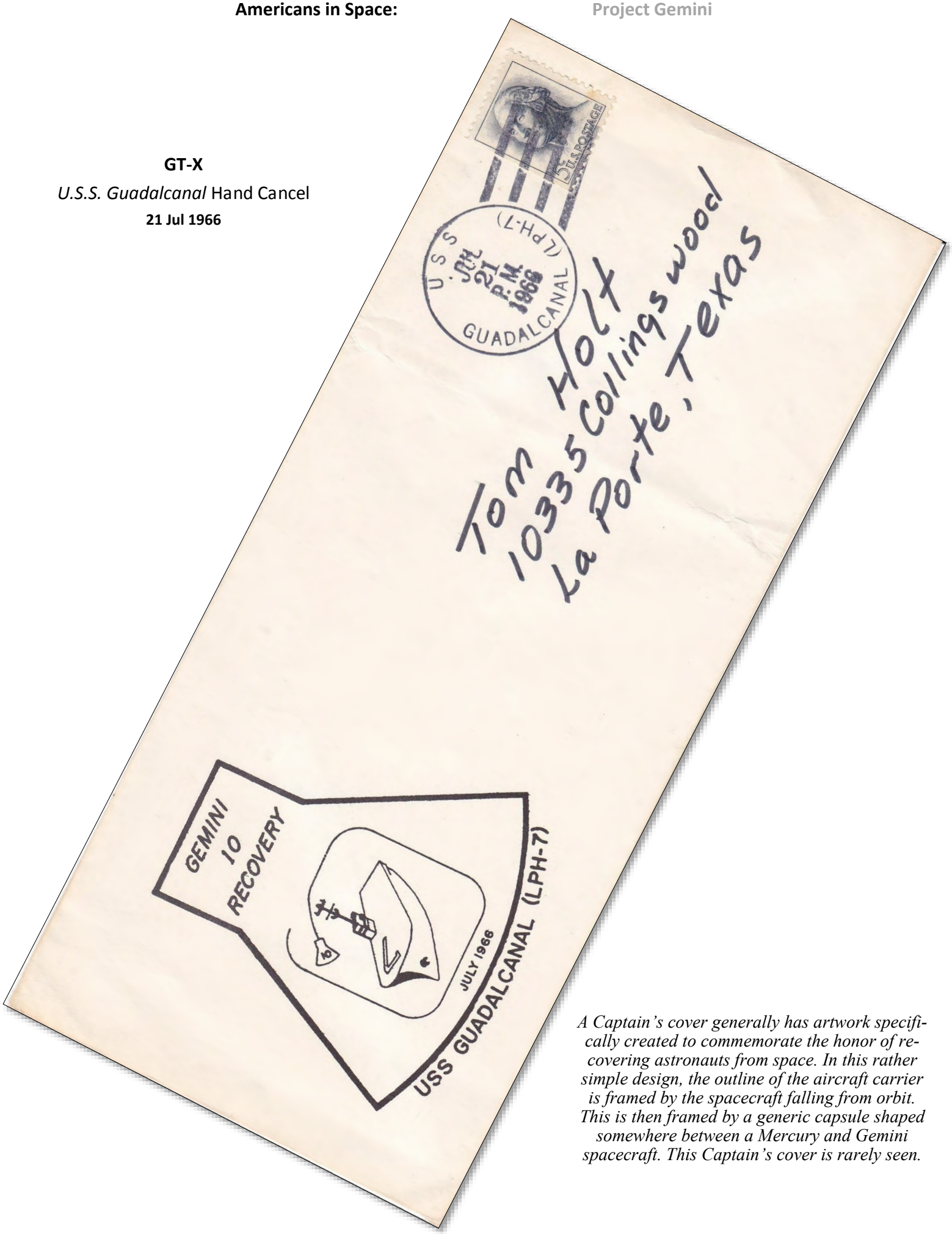
After docking with their Agena and using it to boost them to 763 km, Michael Collins made his way over to the dormant Agena left by the Gemini VIII crew. With no electricity on board, the second Agena the rendezvous was accomplished with eyes only – no radar.

John Young described the Agena ride: "We were thrown forward in our seats. Fire and sparks started coming out the back end of that rascal. The light was something fierce, and the acceleration was pretty good. I never saw anything like that before, sparks and fire and smoke and lights."

GT-X

U.S.S. Guadalcanal Hand Cancel

21 Jul 1966



A Captain's cover generally has artwork specifically created to commemorate the honor of recovering astronauts from space. In this rather simple design, the outline of the aircraft carrier is framed by the spacecraft falling from orbit. This is then framed by a generic capsule shaped somewhere between a Mercury and Gemini spacecraft. This Captain's cover is rarely seen.

GT-XI Kennedy Space Center Hand Cancel **12 Sep 1966**

The postmaster at KSC created a limited number of cachets in alternate colors, perhaps as favors to friends or as a way of generating a little extra income. The blue, seen here with the uncommon Hand Cancel, is joined by a proof-like version in red.

GT-XI St. Johns Hand Cancel **12 Sep 1966**

Joe Frasketi orchestrated tracking station covers from as early as Project Mercury's monkey flights until after the first manned landing on the Moon. The circular rubber stamp is from a set sold by Morris Beck to dealers and collectors.

GT-XI

USS Guam Hand Cancel

15 Sep 1966

Previous commanders had used the spacecraft's offset center of gravity to generate lift for changes in direction. This enabled corrections of up to 550 km downrange and 50 km crossrange. For GT-XI, the computer controlled automatic reentry, made the corrections and landed less than 5 km from the USS Guam. The cover shown here has the Captain's artwork (also found on other sized envelopes) and printed signatures.

GT-XII Kennedy Space Center Machine Cancel **11 Nov 1966**

Radar communication was poor so Buzz Aldrin, who had a PhD in orbital mechanics from MIT, called the shots using a sextant and rendezvous charts. Docking went well, as did the EVA, but a another docking attempt was misaligned, resulting in a latch getting caught. Thrusters rocked them free.

GT-XII *USS Wasp* Hand Cancel **15 Nov 1966**

This Captain's cover celebrates the successful end of Gemini. Landing only 5.5 km from the carrier, the astronauts were on deck aboard the USS Wasp 28 minutes after touchdown.

Project Apollo

"We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win."

President John F. Kennedy September 1962

The author was 10 years old when Neil Armstrong and Buzz Aldrin landed on the moon. I distinctly remember thinking that the rest of my life would be divided in two. Those things that happened before men walked on the moon and things that happened after.

Today, the accomplishment remains as unbelievable as it was before it happened. To leave the planet with two spacecrafts, travel a quarter of a million miles, rendezvous in lunar orbit, land and return home safely is remarkable. The historian Arthur Schlesinger declared, "The 20th Century will be remembered, when all else is forgotten, as the century when man burst his terrestrial bonds."

Apollo represented a departure. It was the first program that had astronauts riding launch vehicles designed for civilian exploration and not military might. Shepard and Grissom rode the Redstone, an Army intermediate range missile. Glenn and other Mercury pilots who followed flew on Atlas missiles. During the Gemini program NASA switched to the Air Force Titan.

To get to the moon, America required more than Army artillery or Air Force ICBMs. In 10 years the Earth-to-orbit weight lifting capability grew by 10 thousand times. It was an age when a single main engine (and there were five) delivered 1.5 million pounds of thrust. In its twilight years Saturn lifted a Skylab module weighing 100 metric tons into orbit not 15 years after our nation have trouble lifting a satellite the size of a grapefruit.

Landing on the moon would be made in a spider-like spacecraft so flimsy it could not bear its own weight on Earth. The sides of the Lunar Module were paper-thin sheets of gold colored foil. The seats were removed for weight due to a strict diet. It required no aerodynamic considerations at all. It was the world's first true spacecraft.

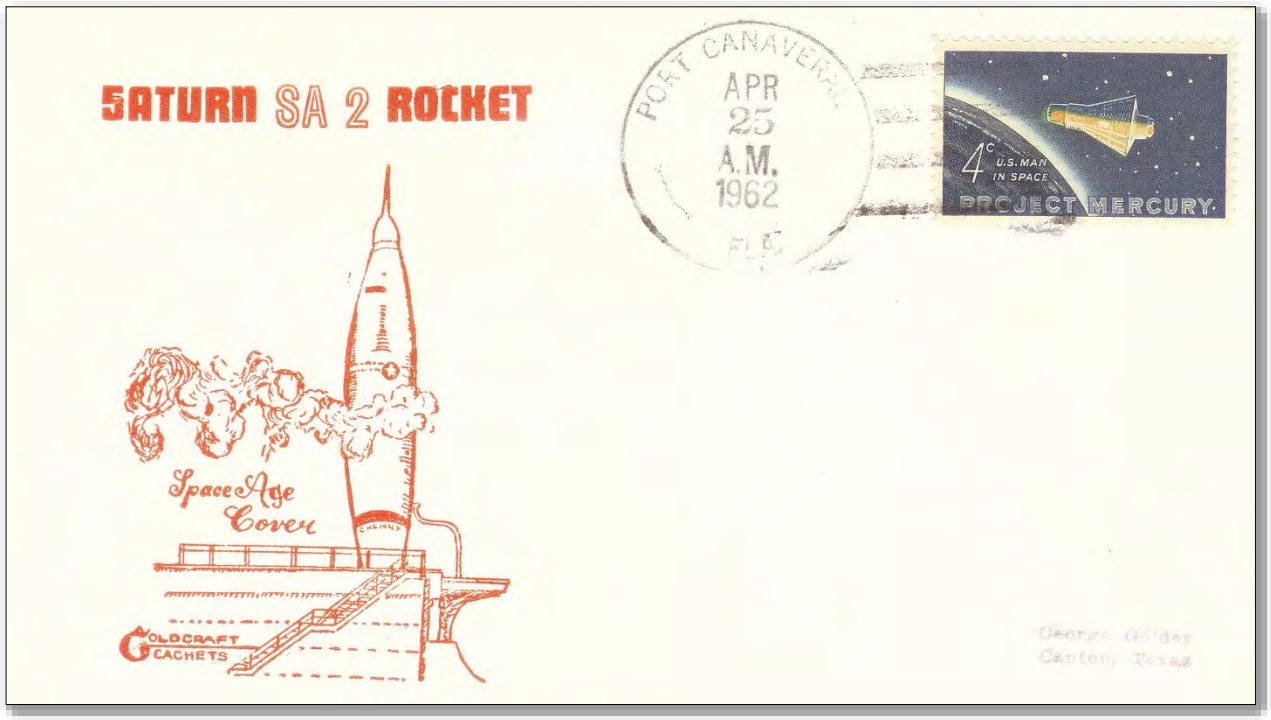
For all the complexity the Apollo launch vehicles were reliable. The 10 Saturn I, the 9 Saturn IB and the 13 Saturn V rockets all flew successfully. Confidence was so high that after only two unmanned Saturn V missions NASA chose to send Apollo 8 around the moon.

In a scant 70 years America had traveled from Kitty Hawk to the moon. Benjamin Foulois had learned to fly from the Wright Brothers only to pin medals on Mercury astronauts. Edwin Aldrin, Sr., knew the Wrights, Goddard and Lindbergh, and watched his son walk on the moon.

SA-1 Port Canaveral Hand Cancel **27 Oct 1961**

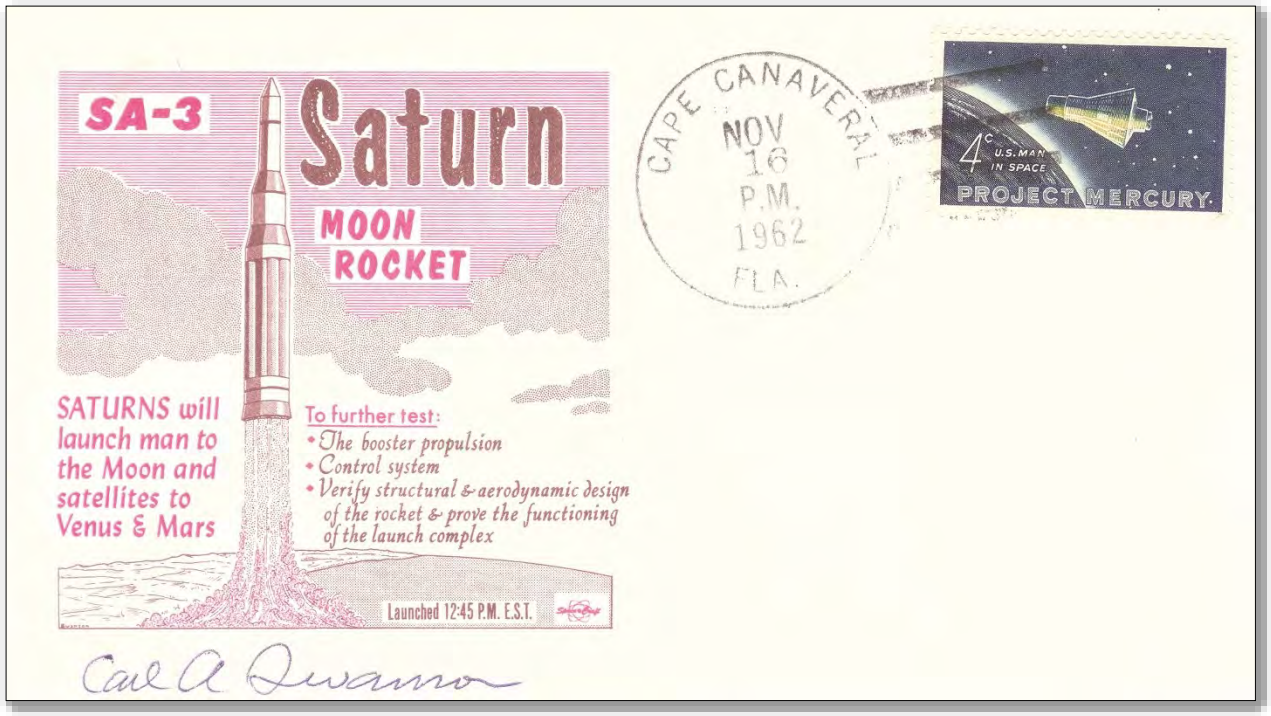
Saturn was three times taller, required six times more fuel and produced ten times more thrust than the Jupiter-C launched just four years before. The first stage and two dummy upper stages flew to a height of 136.5 km and impacted 345.7 km downrange meeting all objectives.

SA-2 Port Canaveral Hand Cancel **25 Apr 1962**



Project High Water was designed to study the effects of radio transmissions with changes in local weather conditions. The rocket would lift 109,000 liters of water and detonate two minutes after launch creating a large artificial cloud.

SA-3 Cape Canaveral Hand Cancel **16 Nov 1962**



Carl Swanson, perhaps the most prolific space event cover artist, was the creative element of Space Craft cachets which combined high quality multi-color printing and accurate mission data.

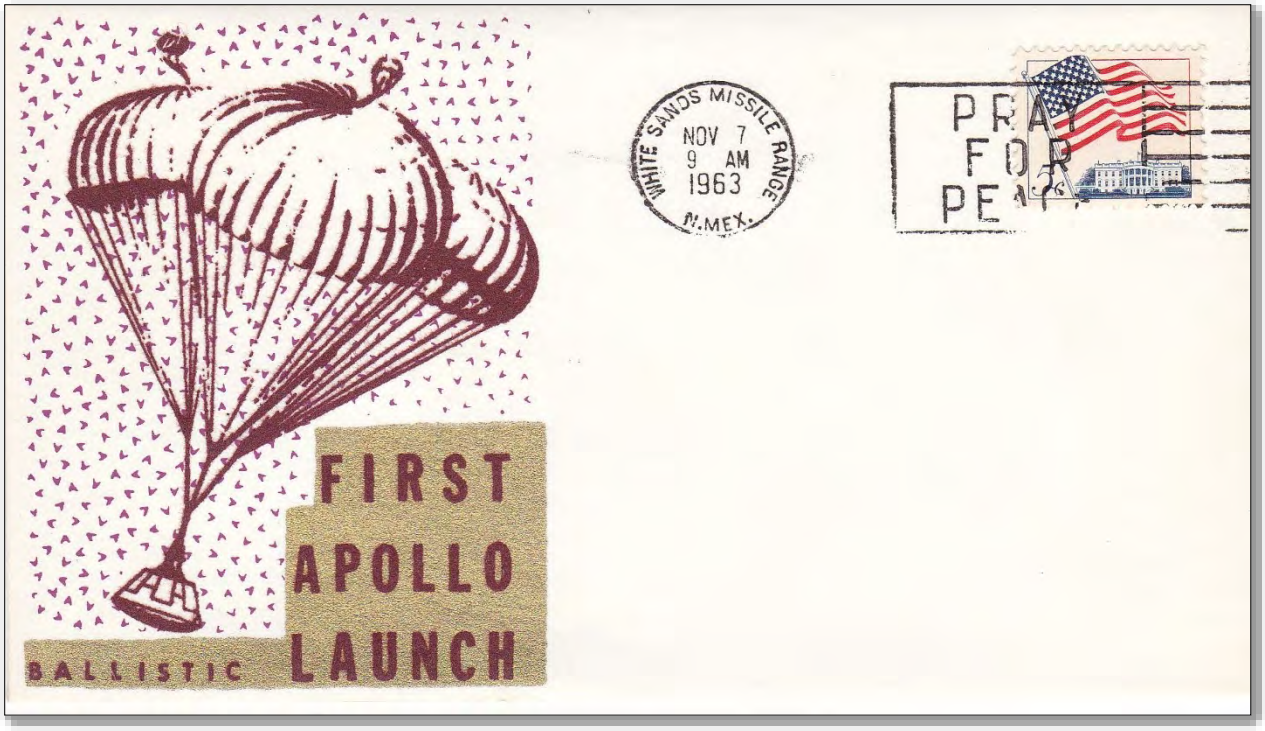
SA-4 Cape Canaveral Machine Cancel **28 Mar 1963**

This flocked Velvetone cachet celebrates the test to see whether the rocket could reroute fuel and burn longer to compensate for a premature engine shutdown. This came in handy for SA-6 and Ap-13.

QTV White Sands Missile Range Machine Cancel **28 Aug 1963**

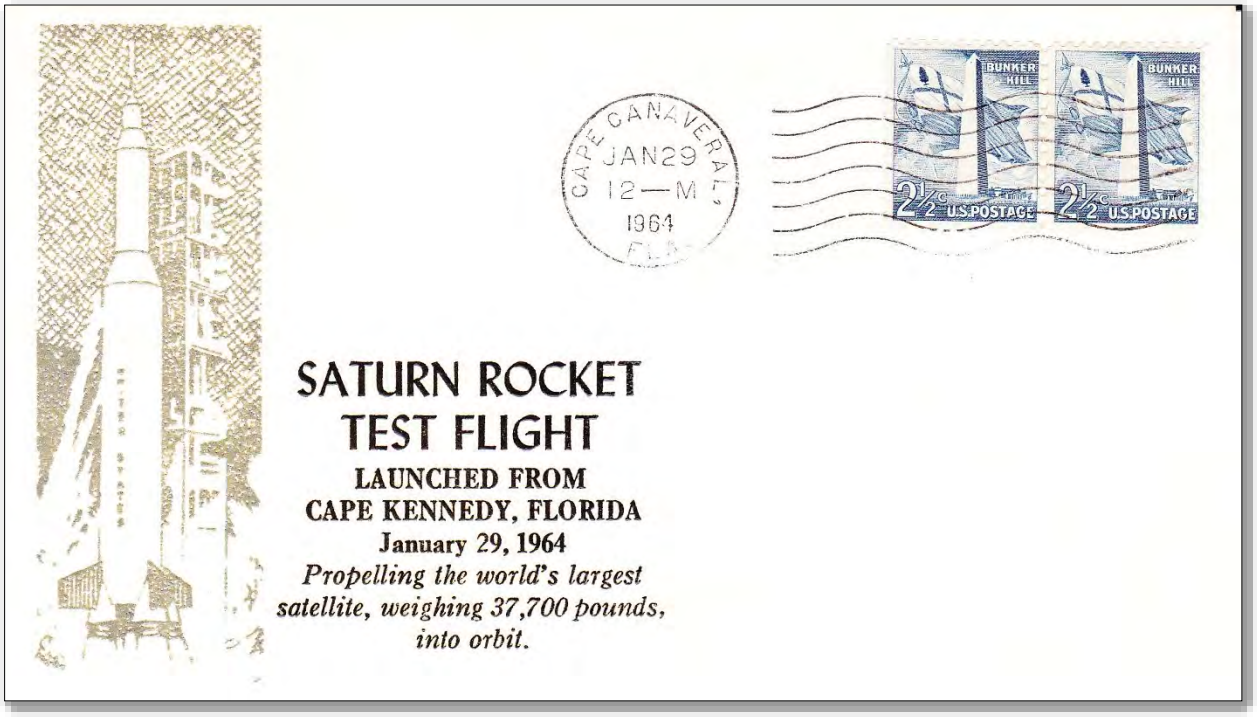
The objective was to prove the Little Joe II rockets capability as an Apollo CSM test vehicle and to determine base pressures and heating on the rocket. Except for the non-functional destruct system it was a success.

PA-1 White Sands Missile Range Machine Cancel **7 Nov 1963**



The launch escape system (LES) needs to be capable of pulling the spacecraft from an exploding rocket while it sat on the pad. It then had to gain sufficient altitude to allow parachutes to open. The flight went beautifully. The only snag was soot on the spacecraft exterior.

SA-5 Cape Canaveral Machine Cancel **29 Jan 1964**



The rocket sent back 1,183 separate measurements while being tracked by six telescopes. For the first 1000 meters the rocket was filmed by 13 cameras that looked for pitch, yaw, and roll movements. Eight cameras that filmed the stage separation were recovered in the Atlantic.

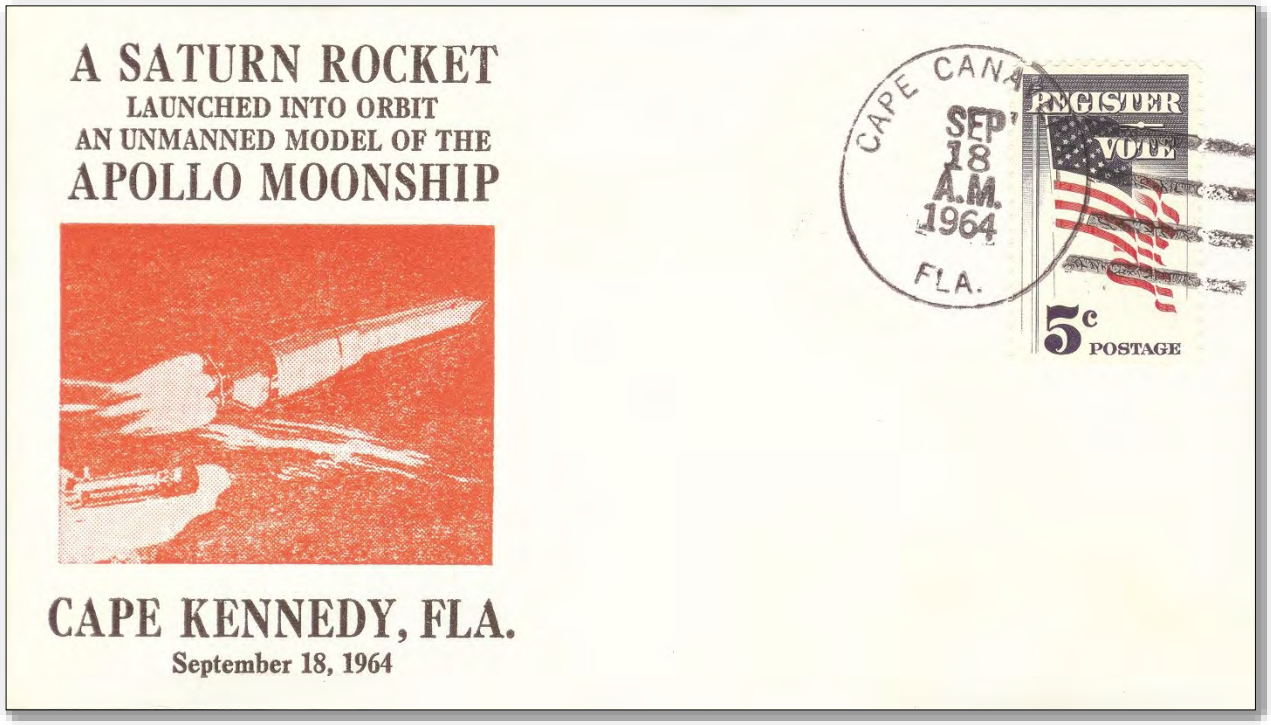
A-001 White Sands Missile Range Machine Cancel **13 May 1964**

Unlike the Pad Abort Test which ignited at ground level, this was flown to show the capability to propel the command module while in a transonic region of flight. Developed to accomplish quick and inexpensive testing of the launch escape system, LJ II was propelled by seven solid-propellant rocket motors – one 42-second Algol sustainer motor, and six 1.5 second Recruit motors.

SA-6 Cape Canaveral Hand Cancel **28 May 1964**

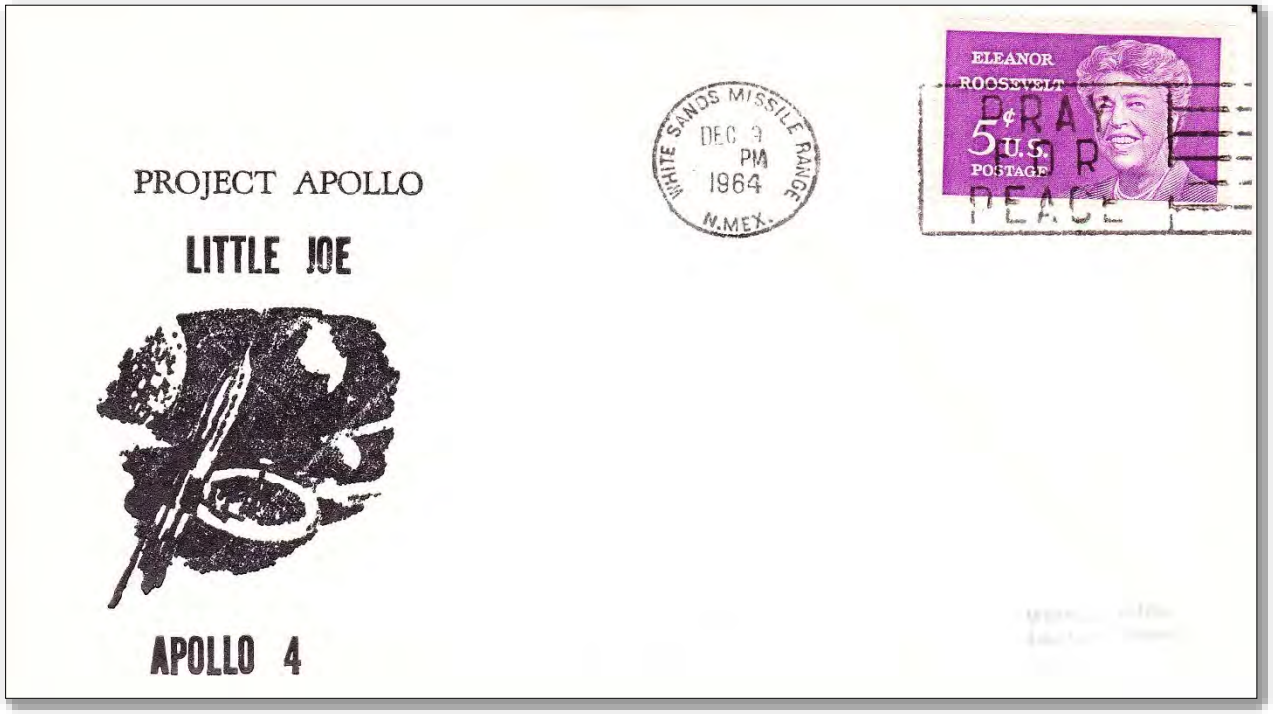
First to fly an Apollo boilerplate capsule. The first stage burned 2.7 seconds longer to compensate for engine number 8 which shut off early. Postflight cause was quickly located with no further delay.

SA-7 Cape Canaveral Hand Cancel **18 Sep 1964**



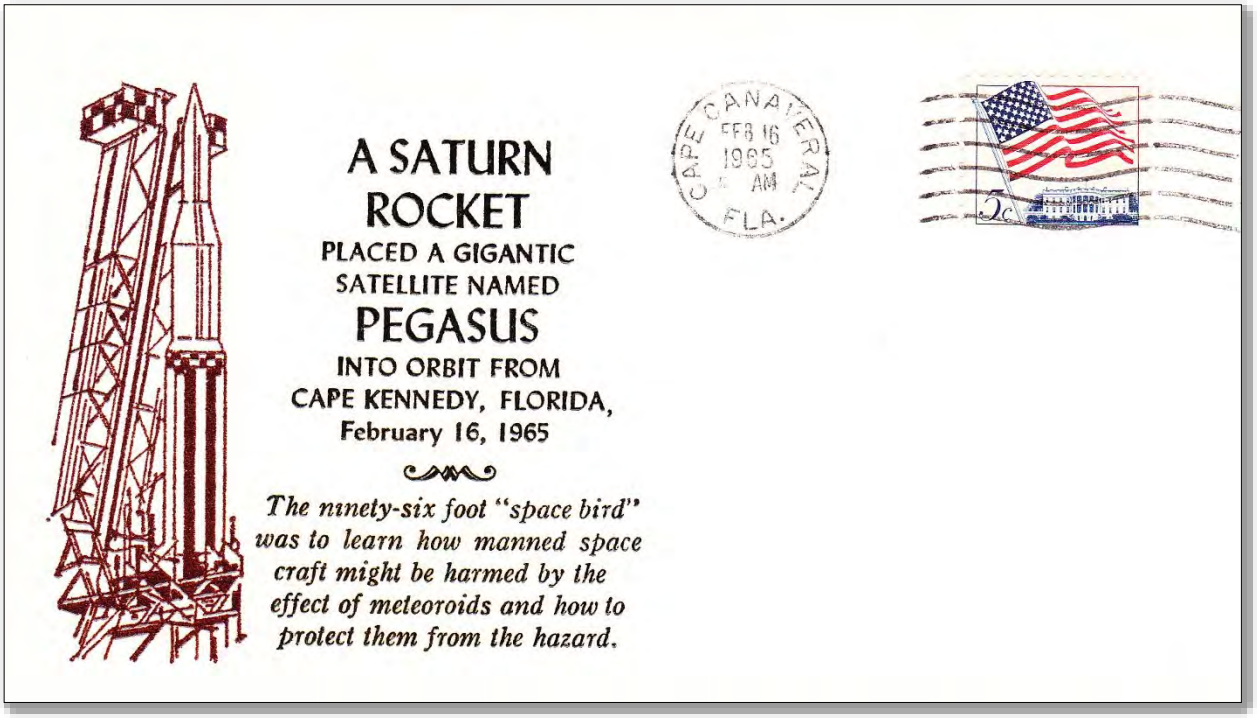
First Saturn flight with a programmable computer. It sent telemetry for five orbits and was tracked for all 59 revolutions until reentry over the Indian Ocean. The eight film camera pods were not immediately recovered although two washed ashore two months later, covered in barnacles but undamaged.

A-002 White Sands Missile Range Machine Cancel **8 Dec 1964**



Testing abort capability of the launch escape vehicle in the maximum dynamic pressure region approximating the altitude limit at which the Saturn emergency detection system would signal an abort was evaluated. Conditions were more than adequate in verifying the abort capability.

SA-9 Cape Canaveral Machine Cancel **16 Feb 1965**

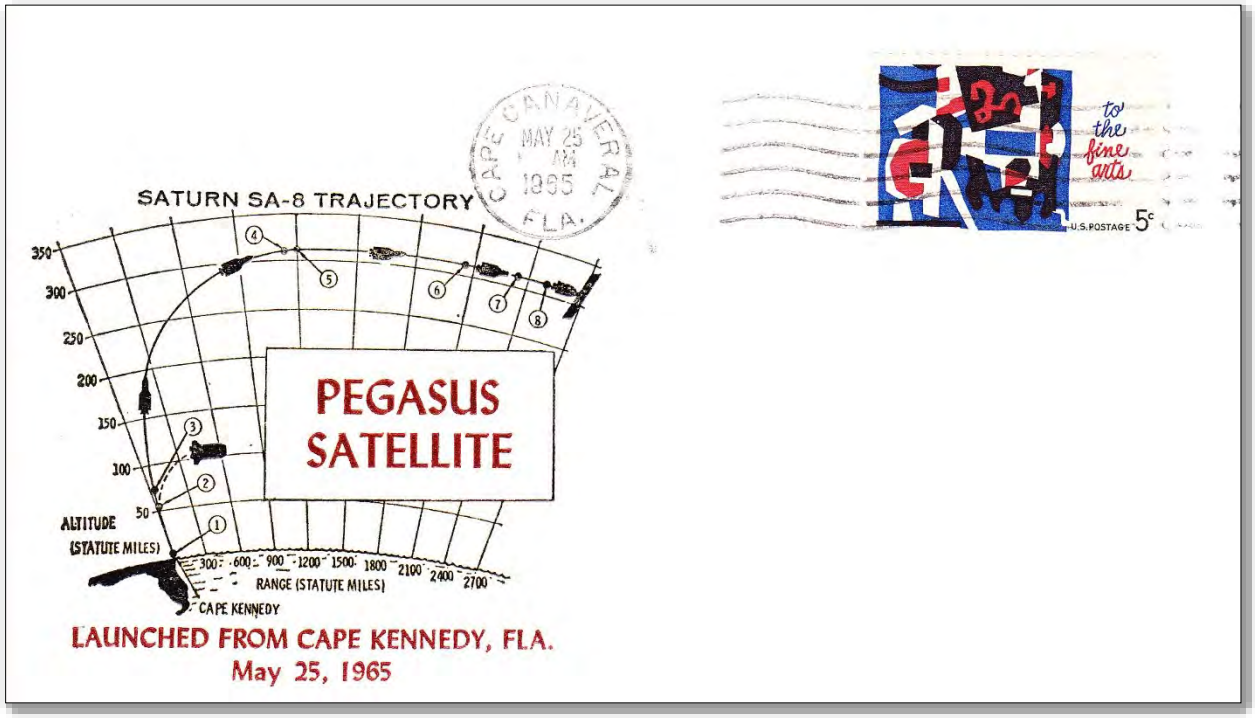


The eighth unmanned Saturn carried both a boilerplate capsule and a meteoroid technology satellite. All objectives were met and Pegasus A remained in orbit for 1188 days.

A-003 White Sands Missile Range Machine Cancel **19 May 1965**

Within 2.5 seconds after lift off a launch malfunction caused the vehicle to go nuts. Excessive roll rate broke up the vehicle before second stage ignition. This became a low altitude abort.

SA-8 Cape Canaveral Machine Cancel **25 May 1965**



The second operational Saturn I. It too carried a boilerplate as well as Pegasus B. This was also the first night launch of the Saturn rocket.

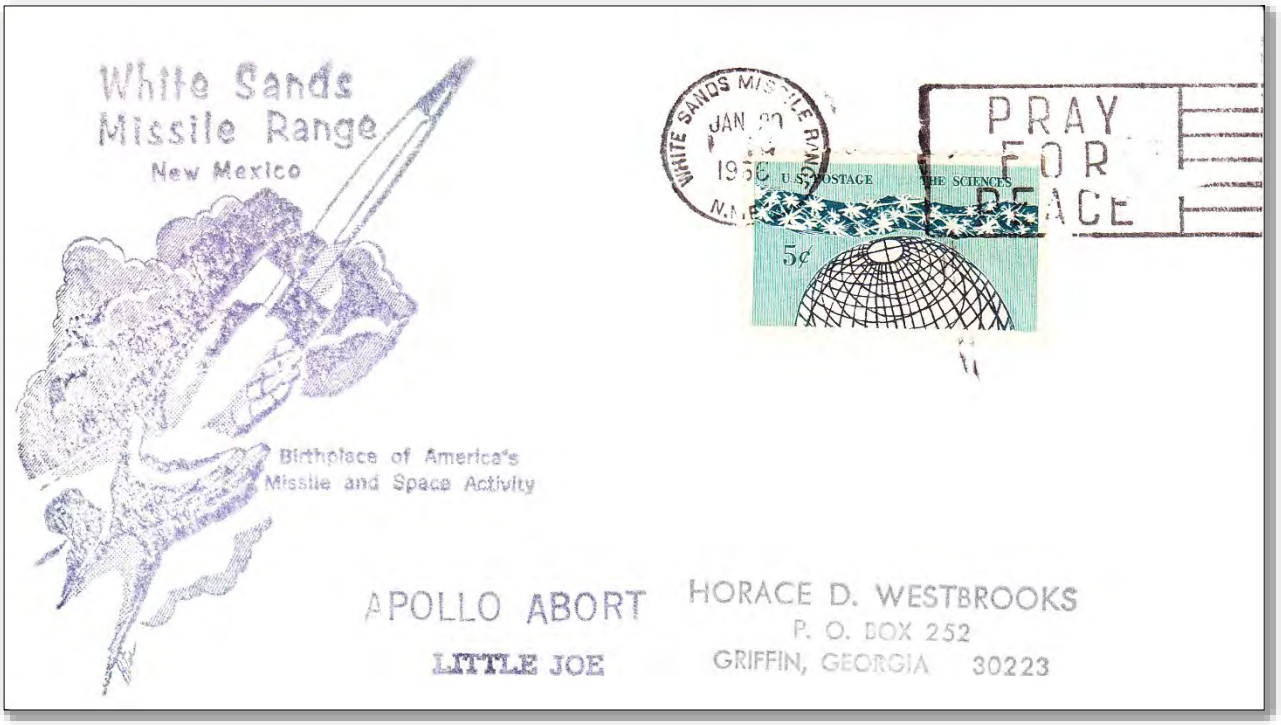
PA-2 White Sands Missile Range Machine Cancel **29 Jun 1965**

A highly successful second Pad Abort test. The only abnormalities were oily residue on the rendezvous and crew windows and a kinked steel cable parachute riser.

SA-10 Kennedy Space Center Machine Cancel **30 Jun 1965**

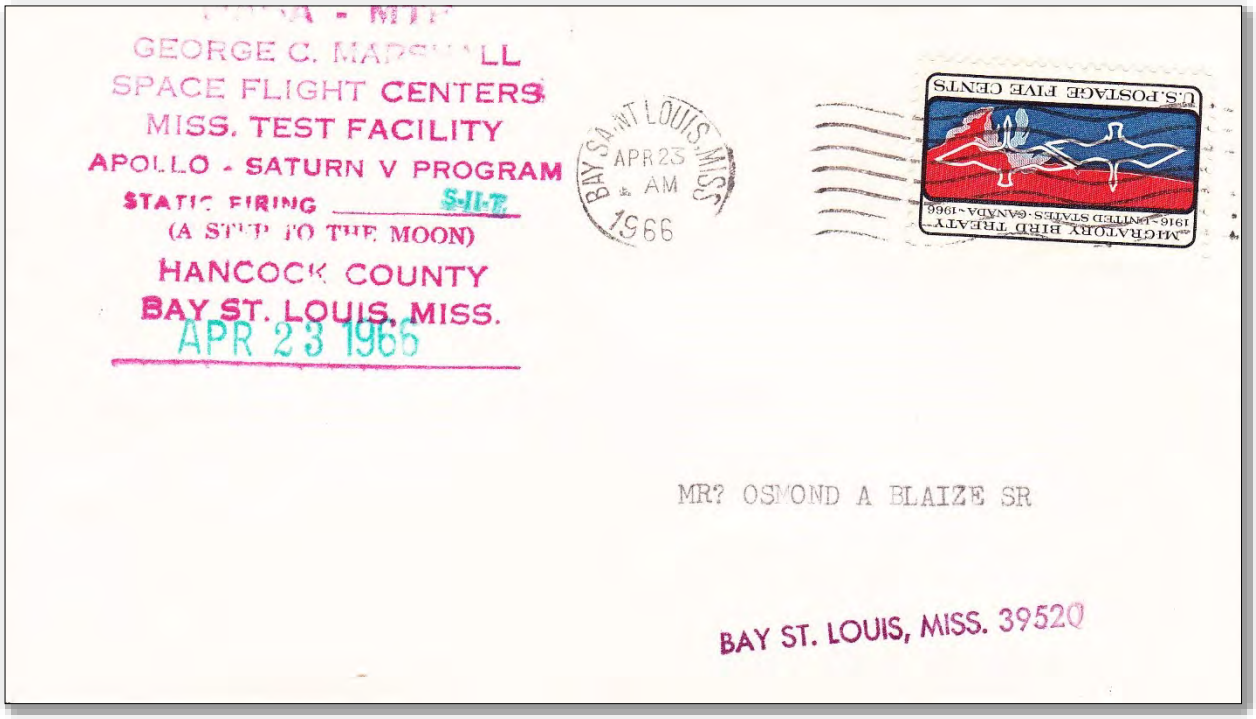
The earliest mission-related KSC Official cachet and a difficult one to find. It commemorates the conclusion of a successful 10 flight Saturn I series.

A-004 White Sands Missile Range Machine Cancel **20 Jan 1966**



First flight of a Block I production-type spacecraft, designed to demonstrate that the launch escape vehicle would orient and stabilize itself after being subjected to a high rate of tumbling during the powered phase and would maintain its structural integrity. The fifth and final Little Joe II flown. The propulsion system consisted of four Algol and five Recruit rocket motors. Passed with high marks.

Apollo-related Bay St. Louis Machine Cancel **23 Apr 1966**

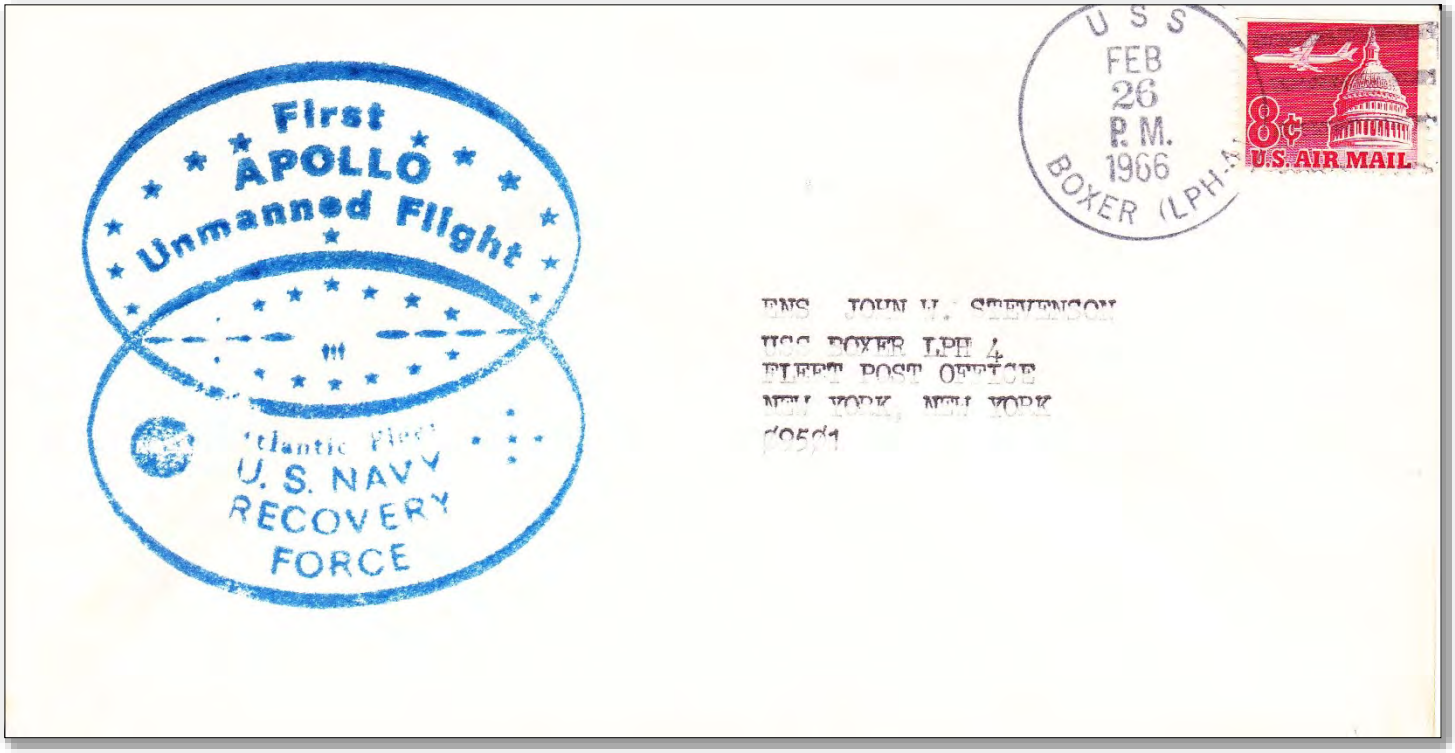


A rarely seen envelope marking the static fire testing of the second stage.

AS-201 Cape Canaveral Machine Cancel **26 Feb 1966**

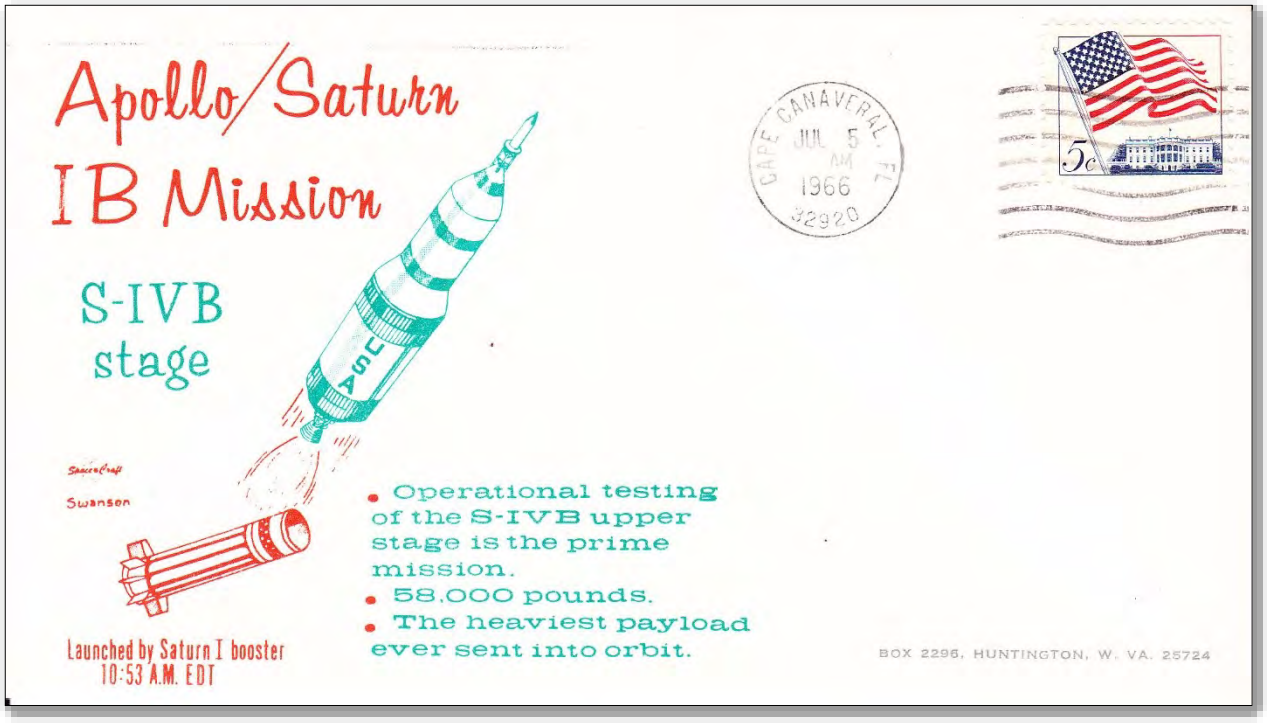
First real Command Service Module (Block I) to ride atop the first Saturn 1B, an uprated version of the Saturn I. With a more powerful first stage and a second stage (S-IVB) that could restart in space, the flight was a leap forward towards a Moon capable launch vehicle.

AS-201 *USS Boxer* Hand Cancel **26 Feb 1966**



A less common Hand Cancel is seen here on a cover that a member of the crew has addressed to himself.

AS-203 Cape Canaveral Machine Cancel **5 Jul 1966**



The main purpose of the flight was to investigate the effects of weightlessness on the fuel in the S-IVB. To accomplish this the second stage was equipped with 83 sensors and two video cameras to record what the fuel did in the tank.

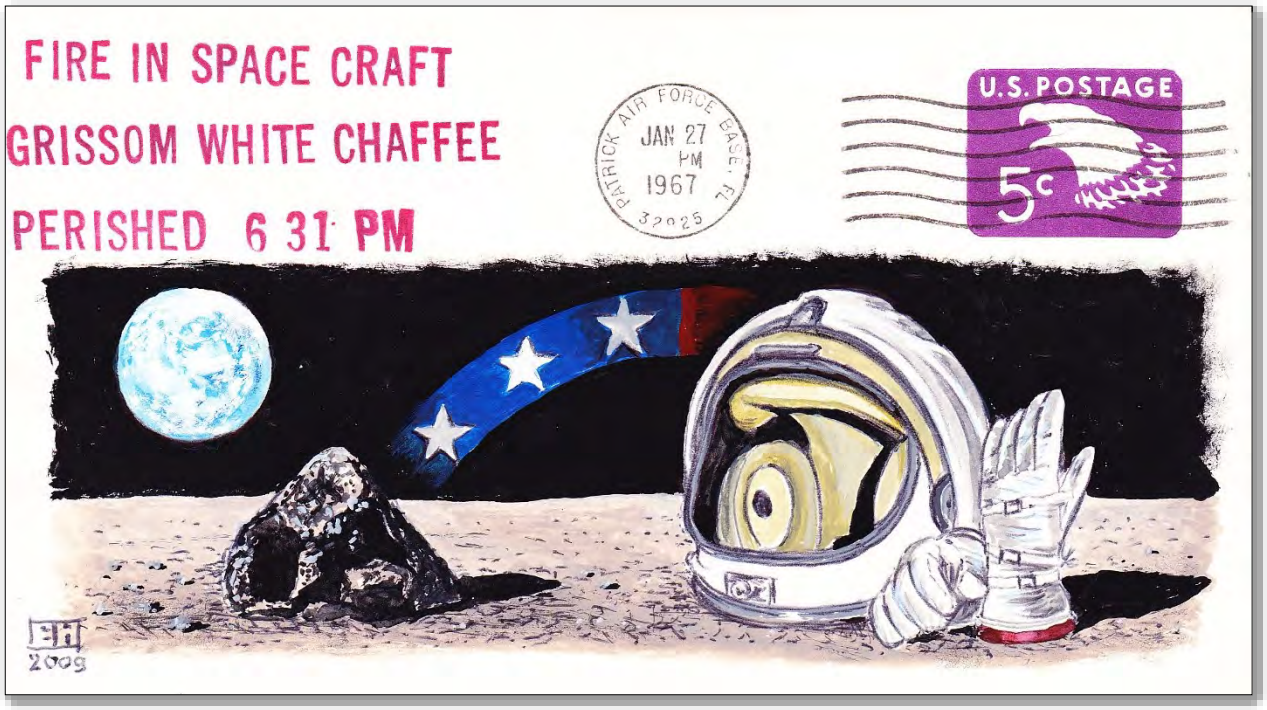
AS-202 *USS Hornet* Hand Cancel **25 Aug 1966**

A hard to find Hand Cancel mailed to a California collector.

Ap-1 Patrick Air Force Base Hand Cancel **27 Jan 1967**

A spark somewhere in 30 miles of wiring killed the Apollo 1 crew during a "plugs out" ground test. The frayed wire ignited glycol vapor fumes from a leak under Gus Grissom's couch. This led to a fire no one could put out

Ap-1 Patrick Air Force Base Machine Cancel **27 Jan 1967**



Postmarks on the day are scarce since the tragedy unfolded after most post offices had closed.

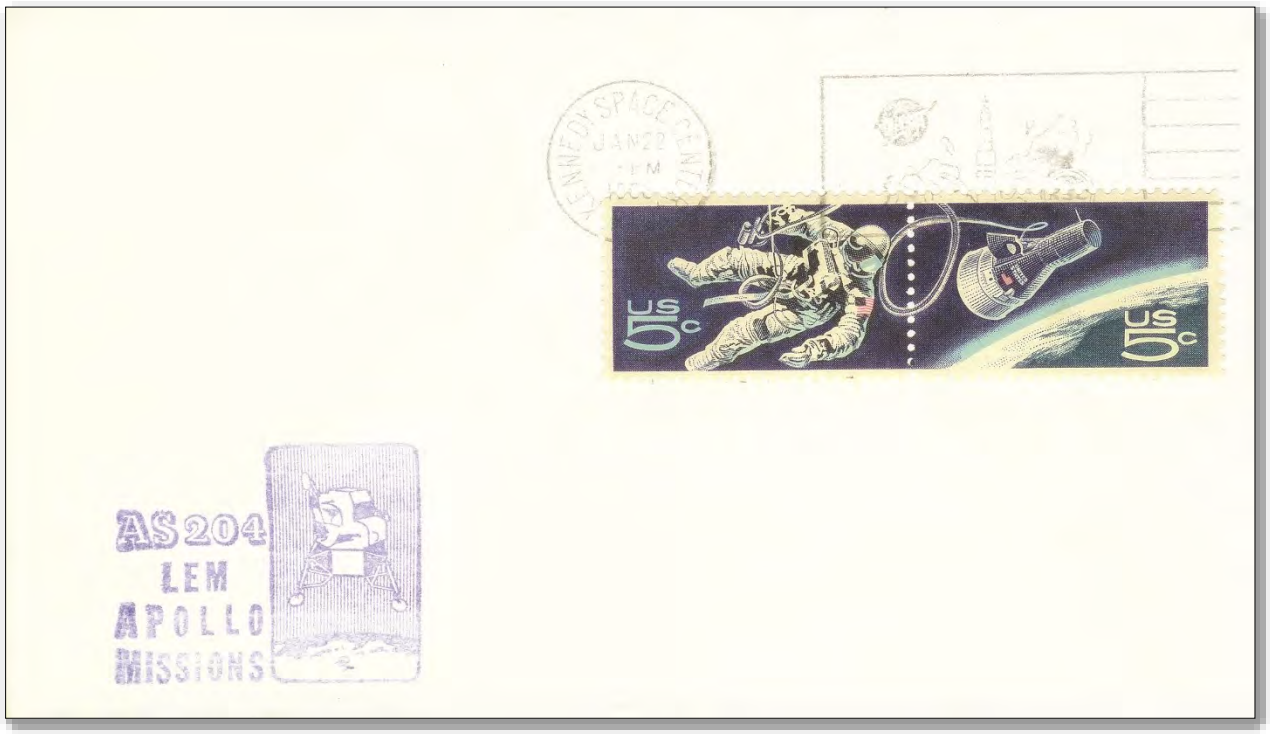
Ap-4 Kennedy Space Center Machine Cancel **9 Nov 1967**

The Saturn V was the largest launch vehicle ever constructed and fired from Launch Complex 39, constructed specifically for it at KSC. 4,098 measuring instruments on board the rocket and space-craft supported the new "all up" doctrine. Everything had to work, and it did.

Ap-4 *USS Bennington* Hand Cancel **9 Nov 1967**

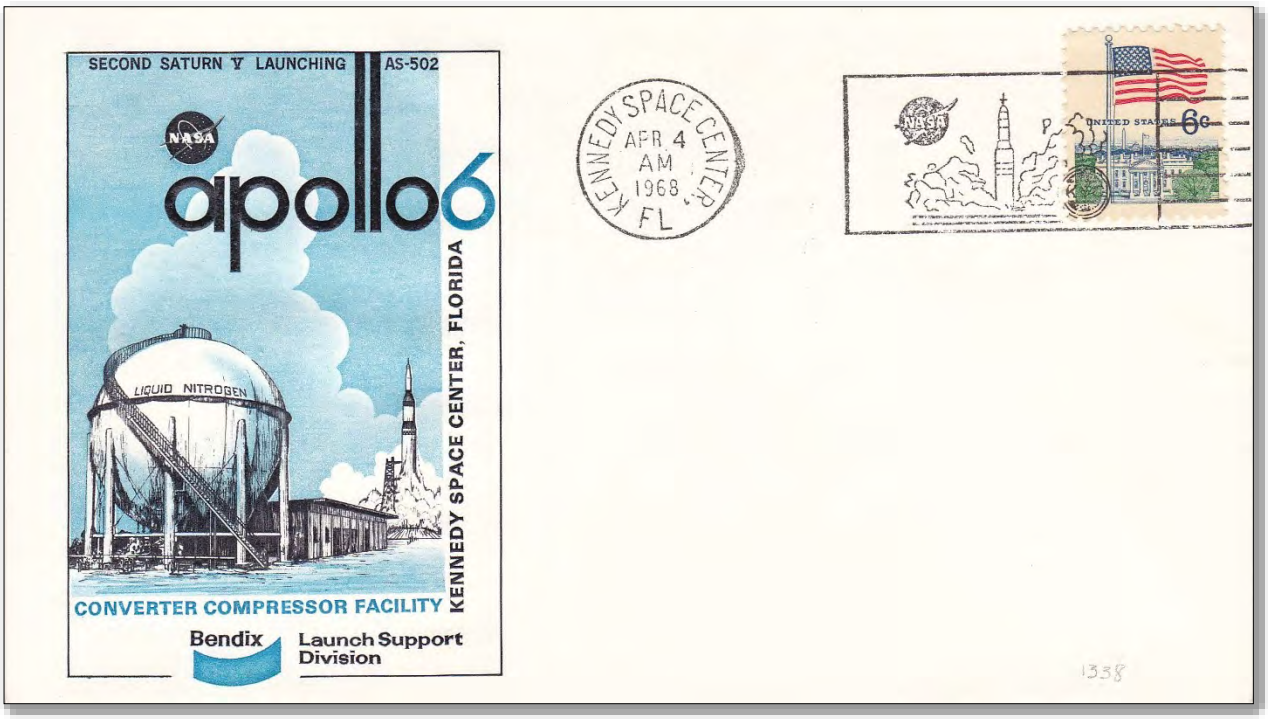
It was a successful collection of "firsts": The flight of the first and second stages of the Saturn V; The first Block II heatshield test; First flight from Pad 39; and the first flight after the devastating Apollo 1 fire. General Phillips was upbeat, "Apollo was on the way to the Moon".

Ap-5 Cape Canaveral Machine Cancel **22 Jan 1968**



A legless Lunar Module is put into orbit. After firing the descent engine three times and the ascent engine twice (therefore meeting all test objectives) LM-1 reentered the atmosphere where its fiery remains plunged into the Pacific several hundred kilometers southwest of Guam.

Ap-6 Kennedy Space Center Machine Cancel **4 Apr 1968**



The goal of the final unmanned Saturn V was to evaluate a direct abort lunar reentry scenario to test the Command Service Module under the most extreme conditions. Here a Contractor cover that shows launch support facilities is illustrated.

Ap-6 Freeport Hand Cancel **4 Apr 1968**

Launched on the same day Civil Rights leader Martin Luther King, Jr. was gunned down in Memphis, Apollo 6 represented a series of "ends". It was the last Block I CSM to fly and the last unmanned Saturn V to take to the skies. Despite a rough ride to orbit the launch vehicle was ready for Apollo astronauts.

Ap-6 *USS Okinawa* Hand Cancel **4 Apr 1968**

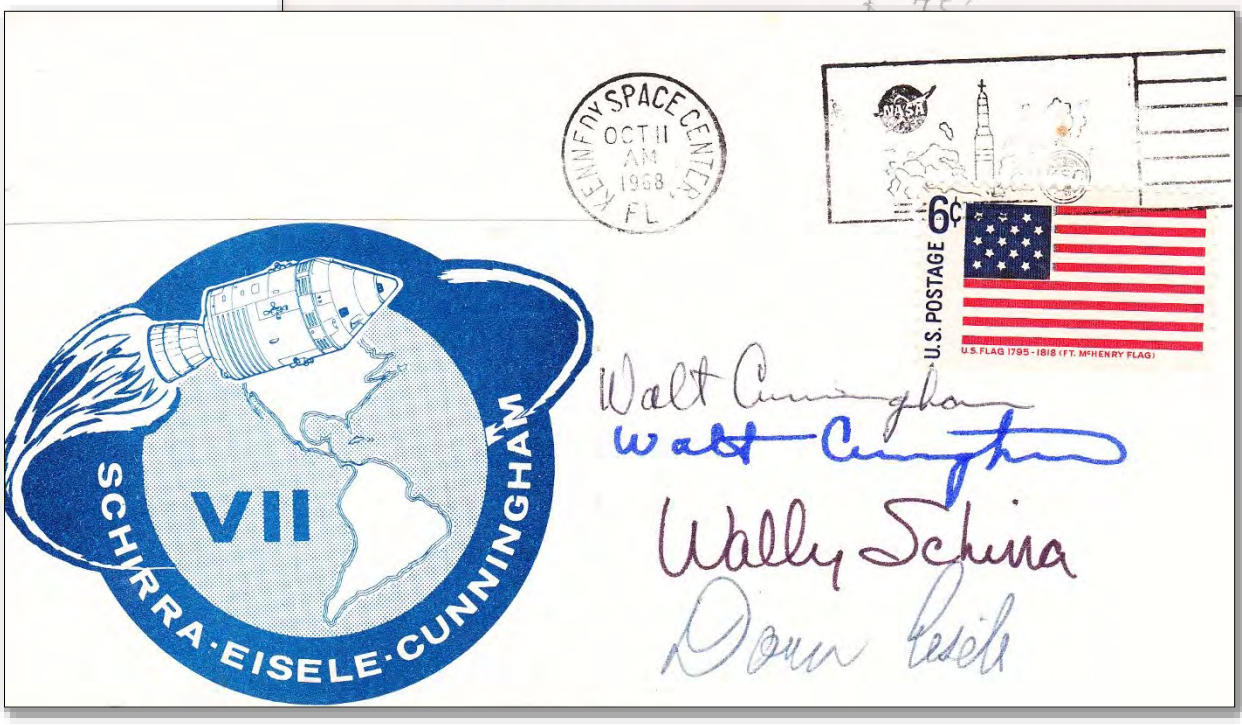
Although the spacecraft had sufficient altitude it ran out of gas before reaching its planned reentry velocity of 11,270 meters per second missing the intended impact point by 80 km.

Type II proof
with Kennedy Space
Center Machine Cancel

Beginning in 1965 KSC Official cachets are found for manned spaceflight and selected other events.

These rubber stamp designs were judged too detailed to print. An add-on label was used instead.

Type I proof
with SUSPECT
Cape Canaveral
Hand Cancel



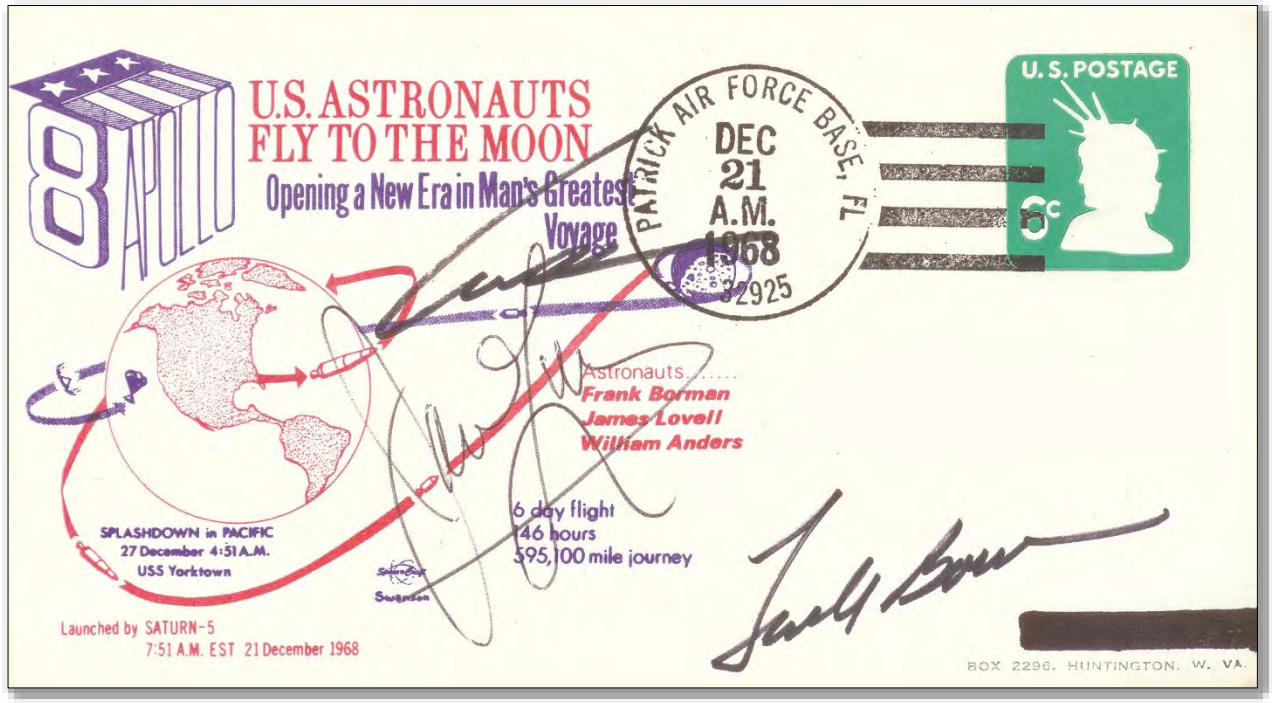
Ap-7
Kennedy Space Center
Machine Cancel
11 Oct 1968

In an attempt to improve image quality, the Ap-7 and Ap-8 KSC Officials were printed as labels instead of rubber stamps. Crew signed with an AUTOPEN of Walter Cunningham in blue.

Ap-7 *USS Essex* Hand Cancel **22 Oct 1968**

A member of the crew designed a limited number (18) of embossed Prime Recovery Ship covers for friends and family. Landing southeast of Bermuda, the spacecraft splashed down less than 2 km from its intended spot.

Ap-8 Patrick Air Force Base Hand Cancel **21 Dec 1968**



The Ap-8 crew received a visit from Charles Lindbergh the night before the launch. They talked about how, for his 1927 flight, he had used a piece of string to measure the distance from New York City to Paris on a globe to calculate the fuel needed for the flight. T he next day Lindbergh and his wife watched the lift off from nearby dunes.

Ap-8 Houston Machine Cancel **27 Dec 1968**

On Christmas Eve, as the crew made the ninth of 10 orbits around the Moon, they took turns reading the story of Creation from the Book of Genesis.

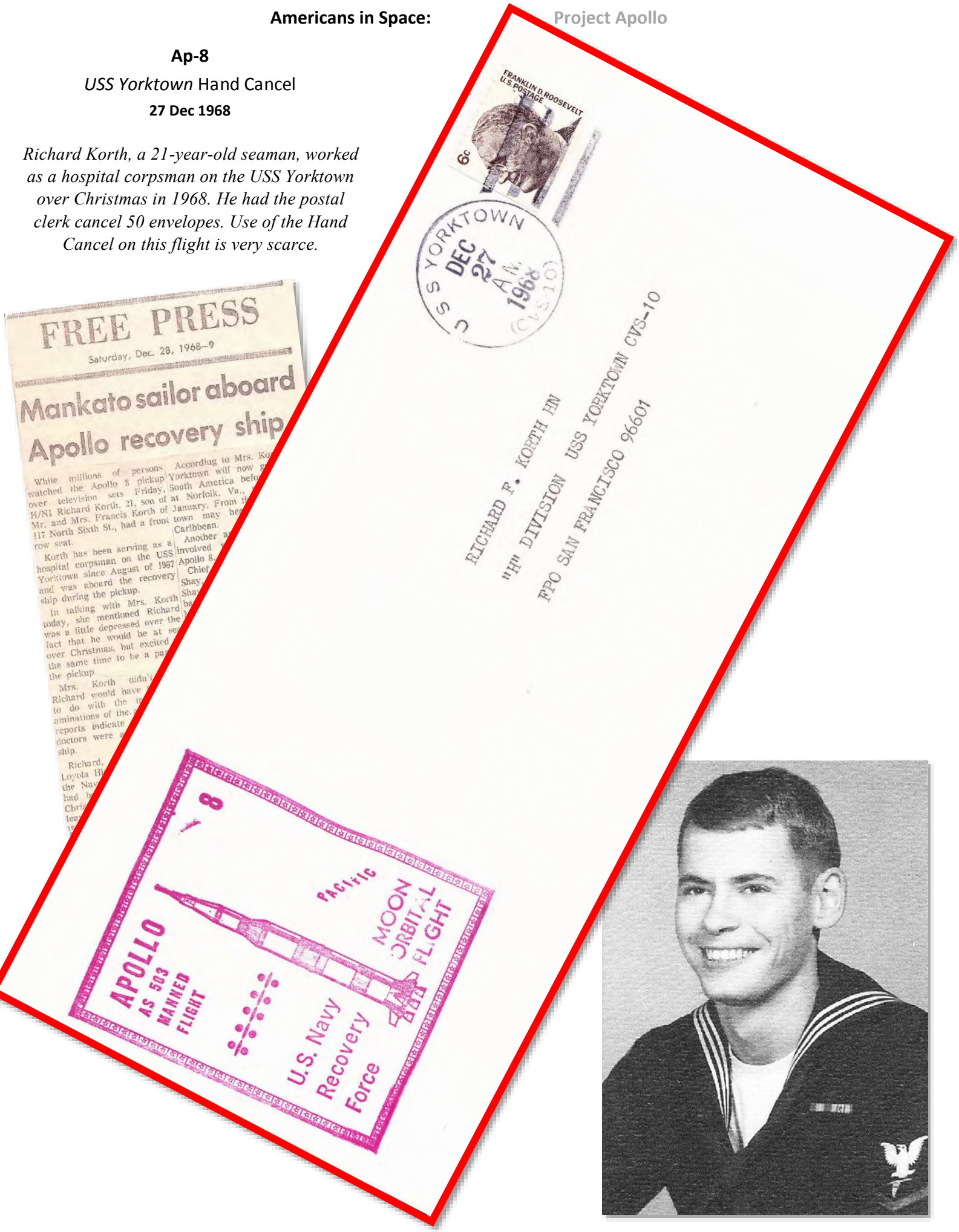
Americans in Space: Project Apollo

Ap-8

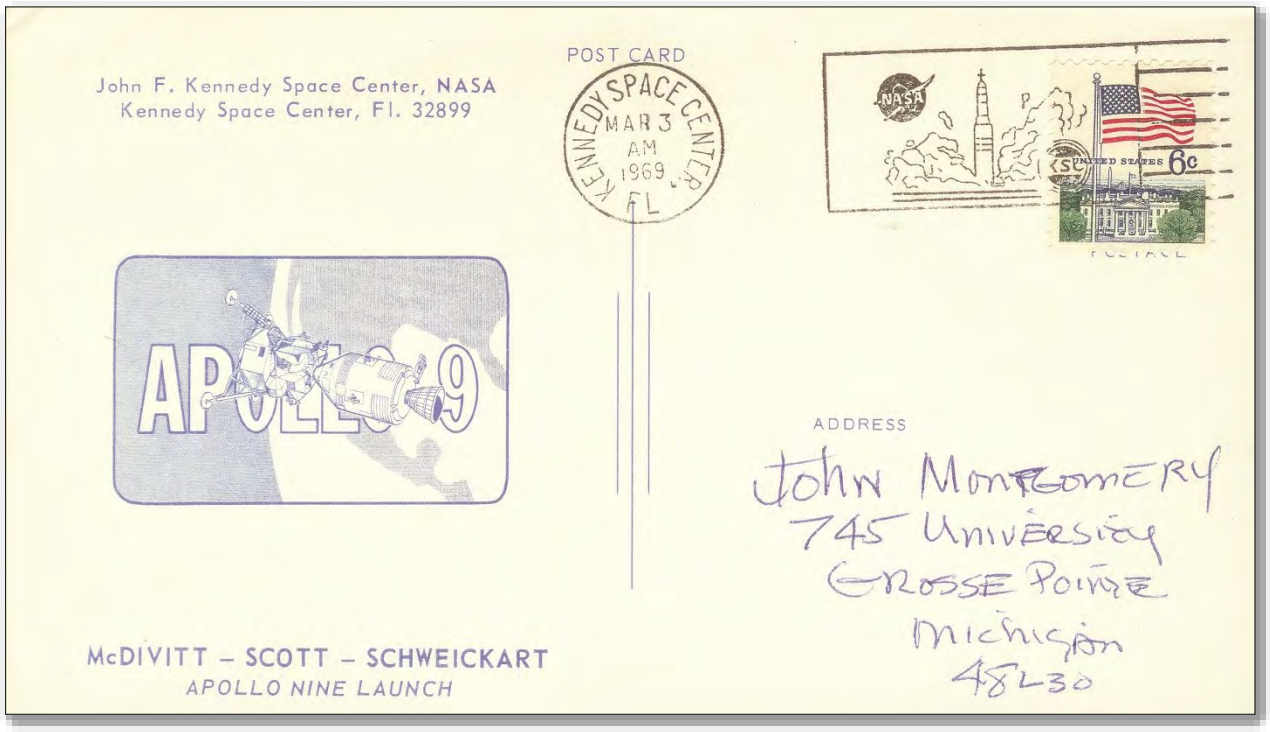
USS Yorktown Hand Cancel

27 Dec 1968

Richard Korth, a 21-year-old seaman, worked as a hospital corpsman on the USS Yorktown over Christmas in 1968. He had the postal clerk cancel 50 envelopes. Use of the Hand Cancel on this flight is very scarce.



Ap-9 Kennedy Space Center Machine Cancel **3 Mar 1969**



Postally used VIP postcard distributed at the launch site. Visitors could have up to five cards, buy stamps, and have them mailed at the site.

Ap-9 Houston Machine Cancel **13 Mar 1969**

The biggest concern before Apollo 9 was the docking maneuver. On several occasions capture latches failed to engage. In other tests latches partially caught raising the specter of "jack-knifing" resulting in sharp edges damaging the Lunar Module. After six hours of LM testing, "I have capture."

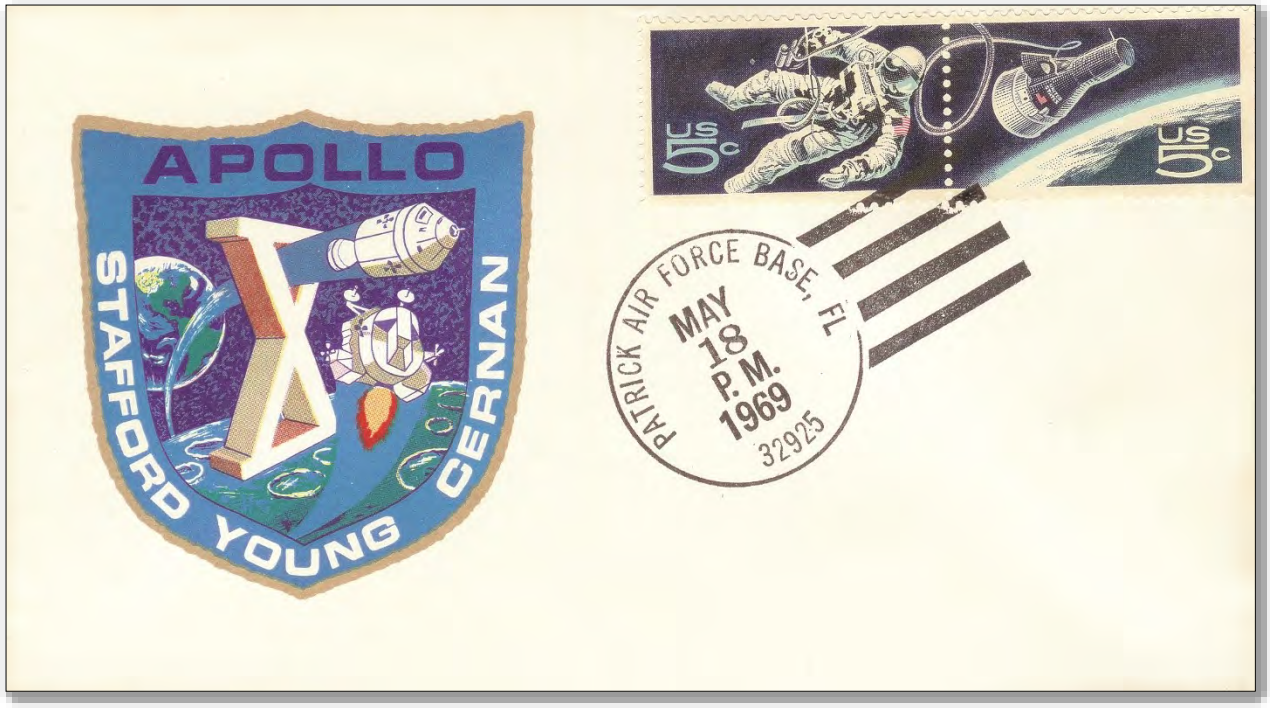
Ap-9

USS Guadalcanal Hand Cancel

13 Mar 1969

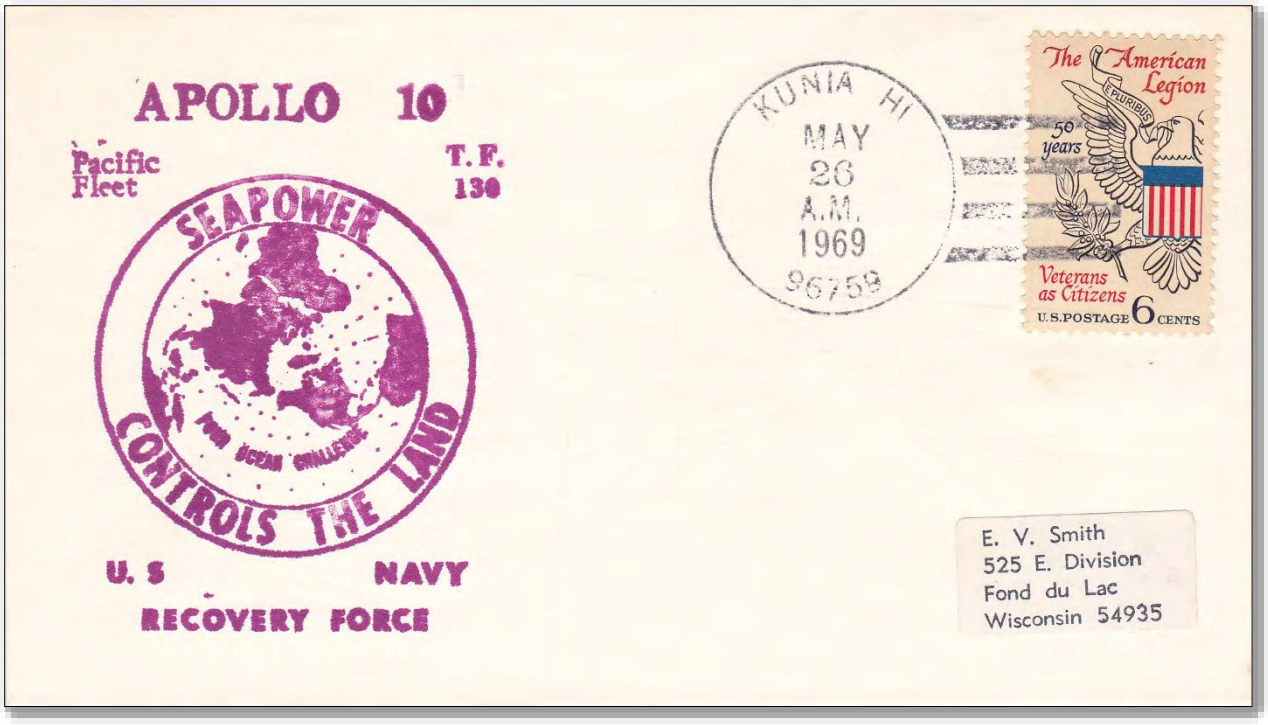
An exceedingly rare Captain's cover that includes crew and Navy rubber stamp art. Sean Marsar bought and resold them from a sailor attending a Tailhook Association gathering in the 1980s. This cover came from an auction sale in 2008.

Ap-10 Patrick Air Force Base Hand Cancel **18 May 1969**



The lunar landing dress rehearsal was needed to check LM guidance and navigation in the Moon's uneven gravitational field. There were also tracking, communications and site selection reconnaissance needed. The all-veteran crew would be busy.

Ap-10 Kunia, HI, Hand Cancel **26 May 1969**



In 1969 Fleet Operations Control Center, Pacifi c (FOCCPAC) was based at Kunia. With the extreme reentry speeds associated with lunar return, spacecraft recoveries which were usually accomplished in the Atlantic during the Mercury program, were now conducted in the Pacific.

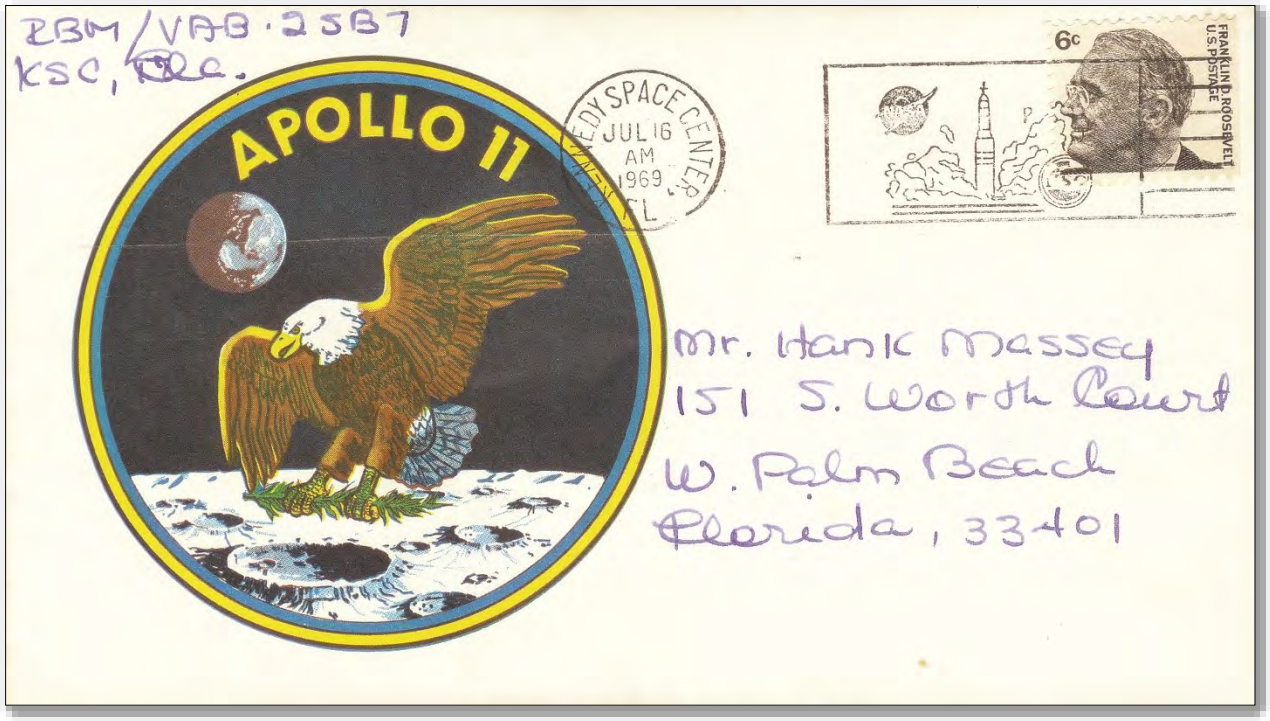
Ap-10

USS Princeton Hand Cancel

26 May 1969

This airmail entire is unusual in several respects. The crew would all be Commanders (Stafford Ap-10, Young Ap-16, and Cernan Ap-17), the rubber stamp is unknown in black, and virtually all postmarks that day used the smaller machine cancel.

Ap-11 Kennedy Space Center Machine Cancel **16 Jul 1969**

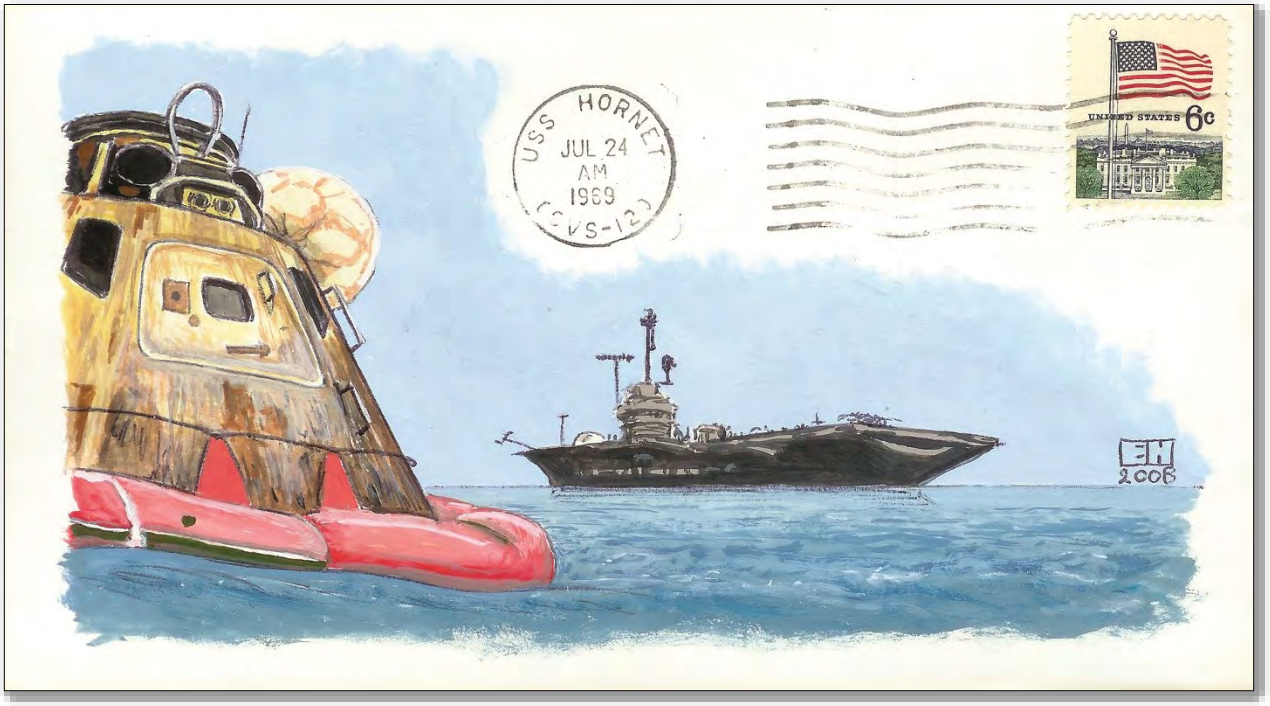


This envelope NASA Exchange mission emblem cover was probably sent from a family member (initials RBM) who worked in the Vehicle Assembly Building (VAB).

Ap-11 Houston Backdated Machine and Hand Cancel **20 Jul 1969**

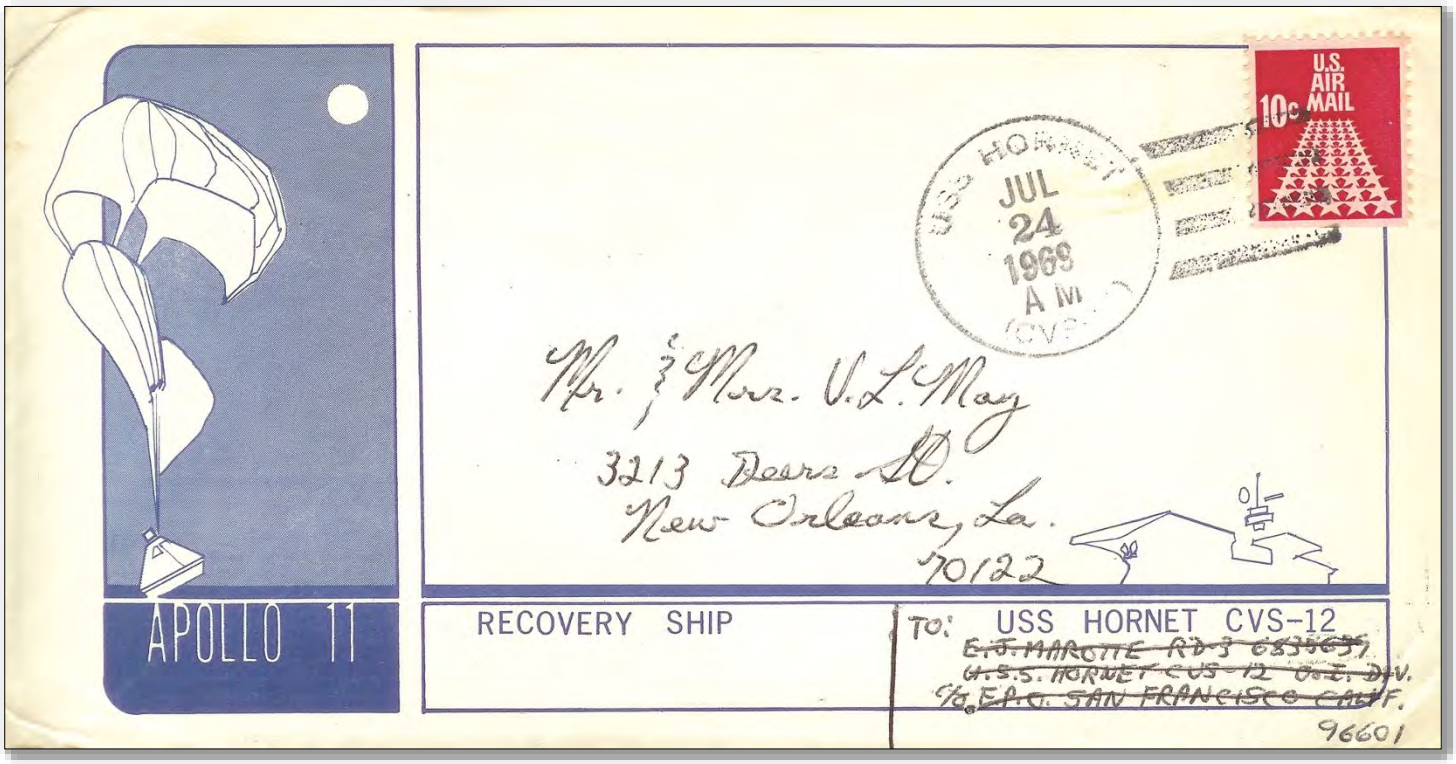
Europeans consider 21 Jul 1969 the moon landing date (GMT) but the controlling time zone was in Houston. This cover has a Machine Cancel (lost in t he black of the stamp) and a Hand Cancel. Both were backdated since the moon landing was on a Sunday.

Ap-11 *USS Hornet* Type II Machine Cancel **24 Jul 1969**



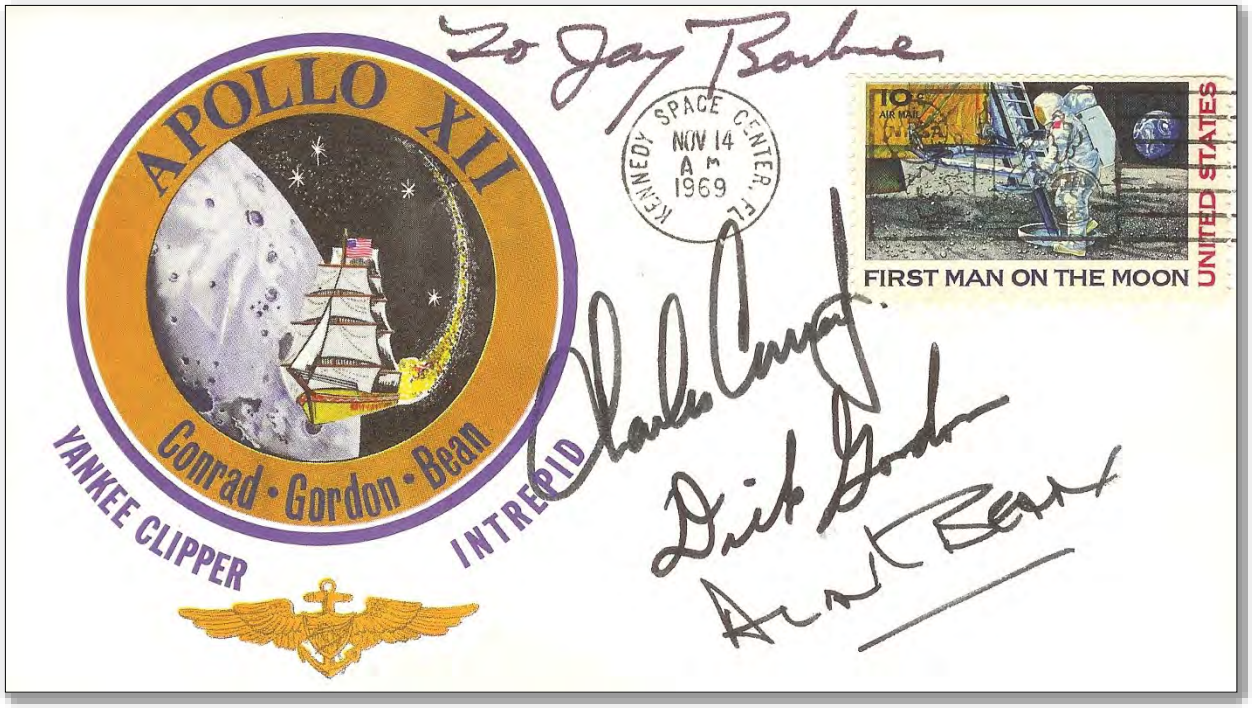
Columbia landed close to its target and flipped over on its nose in the water, but a flick of a switch inflated the air bags and it soon turned upright.

Ap-11 *USS Hornet* Machine Cancel **24 Jul 1969**



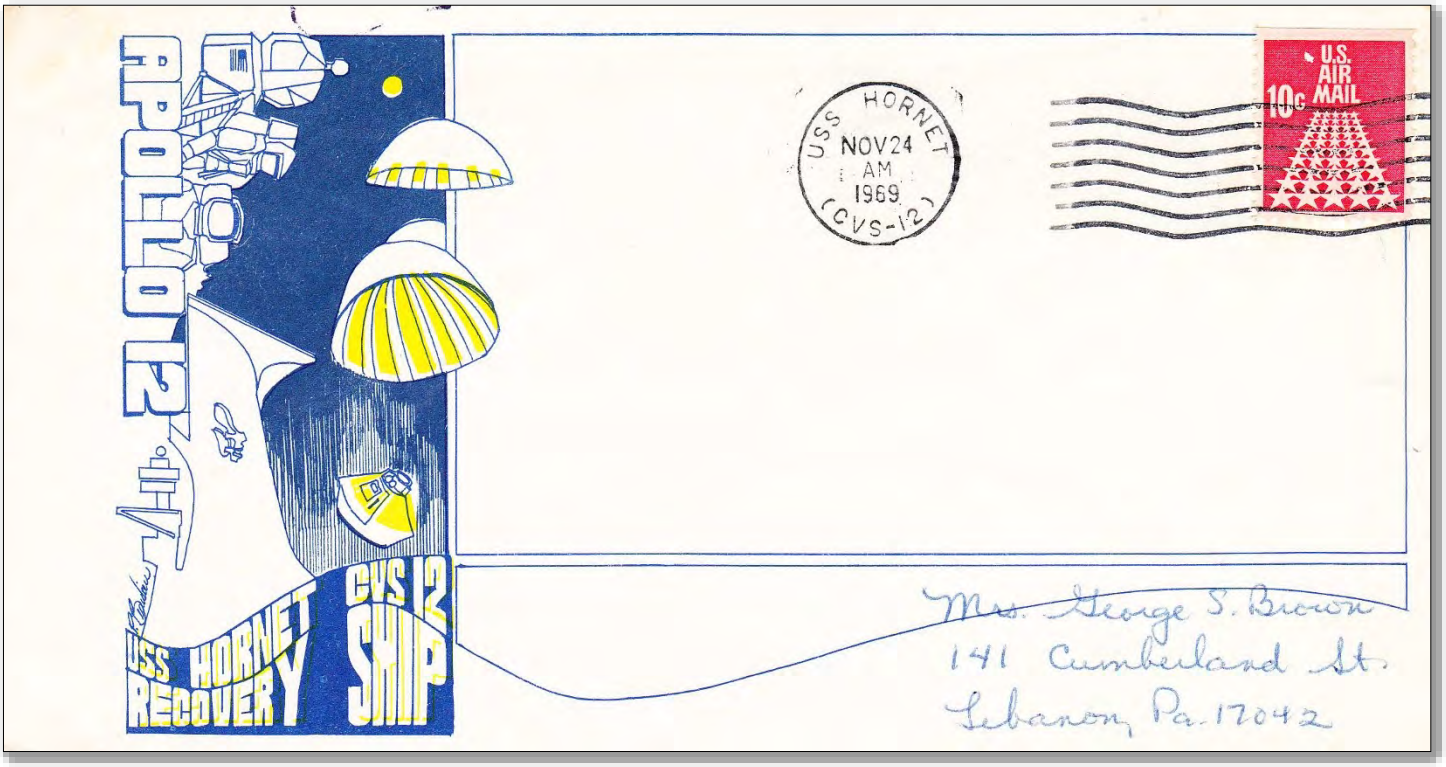
6000 Captain's covers were created. A few Navy brass and the astronauts received 25 each while members of the crew were given two each. This one entered the mail stream from a crew member.

Ap-12 Kennedy Space Center Machine Cancel (Open globe) **14 Nov 1969**



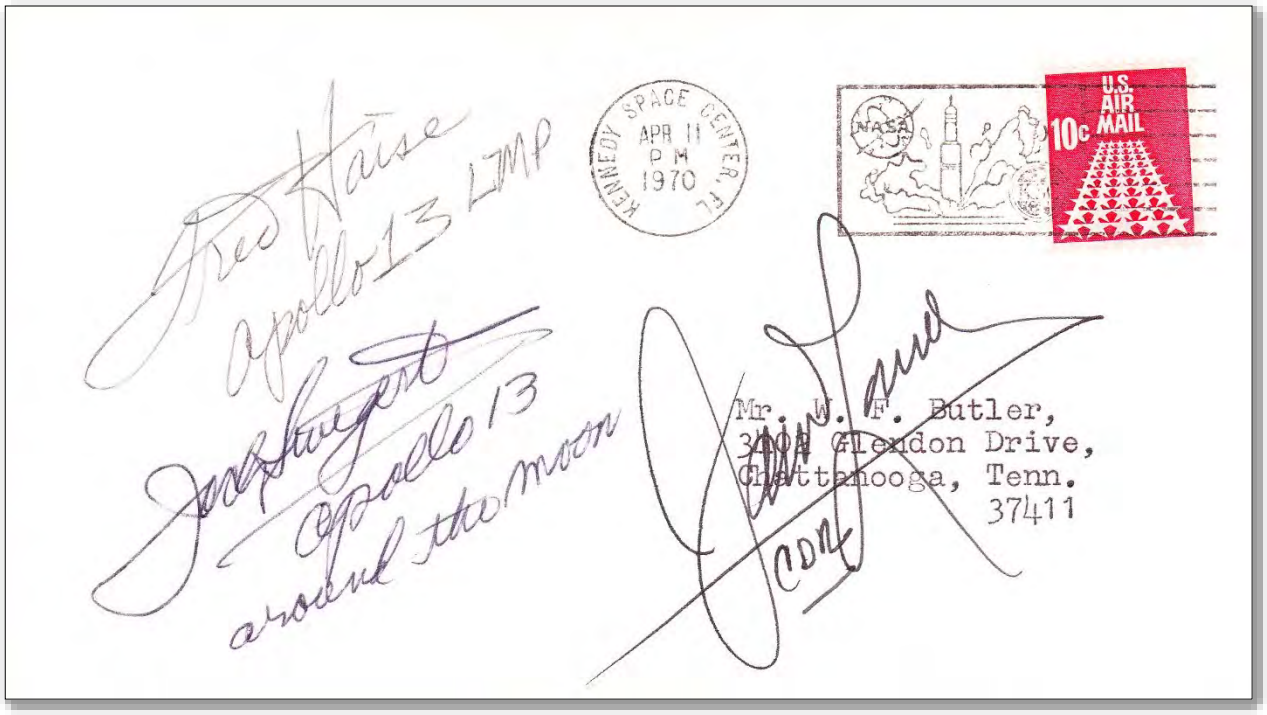
Al Bishop created "Insurance" covers (this one for an all-Navy crew) that astronauts could leave with family in the event that they failed to return. Later these were sold or given as gifts.

Ap-12 *USS Hornet* Machine Cancel **24 Nov 1969**



Yankee Clipper returned to Earth 800 km east of American Samoa on the Pacific Ocean. During splashdown, a 16 mm camera dislodged from storage and struck Bean in the forehead, rendering him briefly unconscious. He suffered a mild concussion and needed six stitches.

Ap-13 Kennedy Space Center Machine Cancel (Open globe) **11 Apr 1970**

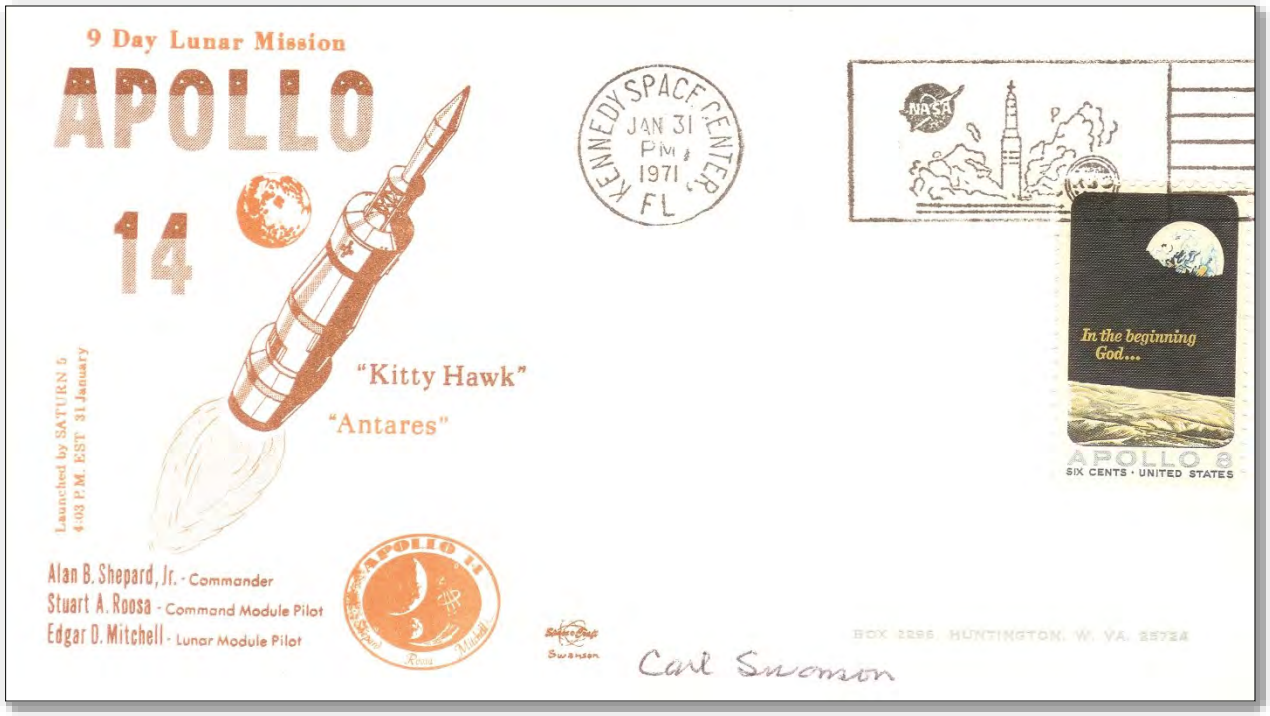


Two days before launch, Jack Swigert joined the crew replacing Ken Mattingly who had been exposed to German Measles. Fortunately, the mission emblem (with the exception of Ap-11) was the only Apollo patch not to feature the names of the pilots.

Ap-13 *USS Iwo Jima* Type II Variant 2 Hand Cancel **17 Apr 1970**

The possibility of heat shield damage from the explosion heightened tensions during the blackout period, which took 33 seconds longer than normal. Odyssey regained radio contact and splashed down safely southeast of American Samoa and 6.5 km from the recovery ship.

Ap-14 Kennedy Space Center Machine Cancel (Closed globe) **31 Jan 1971**



After regaining flight status, Mercury astronaut Alan Shepard (with 15 minutes of flight time under his belt) jumped to the head of the line and took two rookies to the Moon.

Ap-14 *USS New Orleans* Hand Cancel **9 Feb 1971**

The LM radar altimeter failed to lock onto the moon's surface. After the landing radar breaker was cycled, the unit successfully acquired a signal. Shepard then manually landed the LM. Mitchell believes Shepard would have continued with the landing attempt anyway but a post-flight review of the descent data showed the inertial system alone would have been inadequate, and the astronauts probably would have been forced to abort the landing as they approached the surface.

AP-14

Raoul Island Hand Cancel

10 Feb 1971

This envelope nicely explains the concept of the nearest post office and current date in order to be astrophilatelically correct. If the US Navy didn't have a post office on board the Prime Recovery Ship (PRS) then the closest would have been Raoul in New Zealand. The postmark would also reflect that, across the International Date Line, it was already February 10th.

The impact point was about 0.6 n mi from the target point and 3.8 n mi from the recovery ship USS New Orleans. Estimated distance traveled for the mission was 1,000,279 nautical miles.

Ap-15 Kennedy Space Center Machine Cancel (Open globe) **26 Jul 1971**

During checkout of the LRV, it was found that the front steering mechanism was inoperative and there were no readouts on the battery #2 ampere/volt meter. Scott intended to contact AAA but left his membership card in his other spacesuit. This unflown example of the Irwin "lucky" clover came from Ray Burton, the collector who provided them to the astronaut.

Ap-15 *USS Okinawa* Type II Hand Cancel **7 Aug 1971**

An innocuous Prime Recovery Ship envelope except for the recently released Decade of Achievement stamps flown out to the USS Okinawa especially for the astronauts and found on all their moon covers.

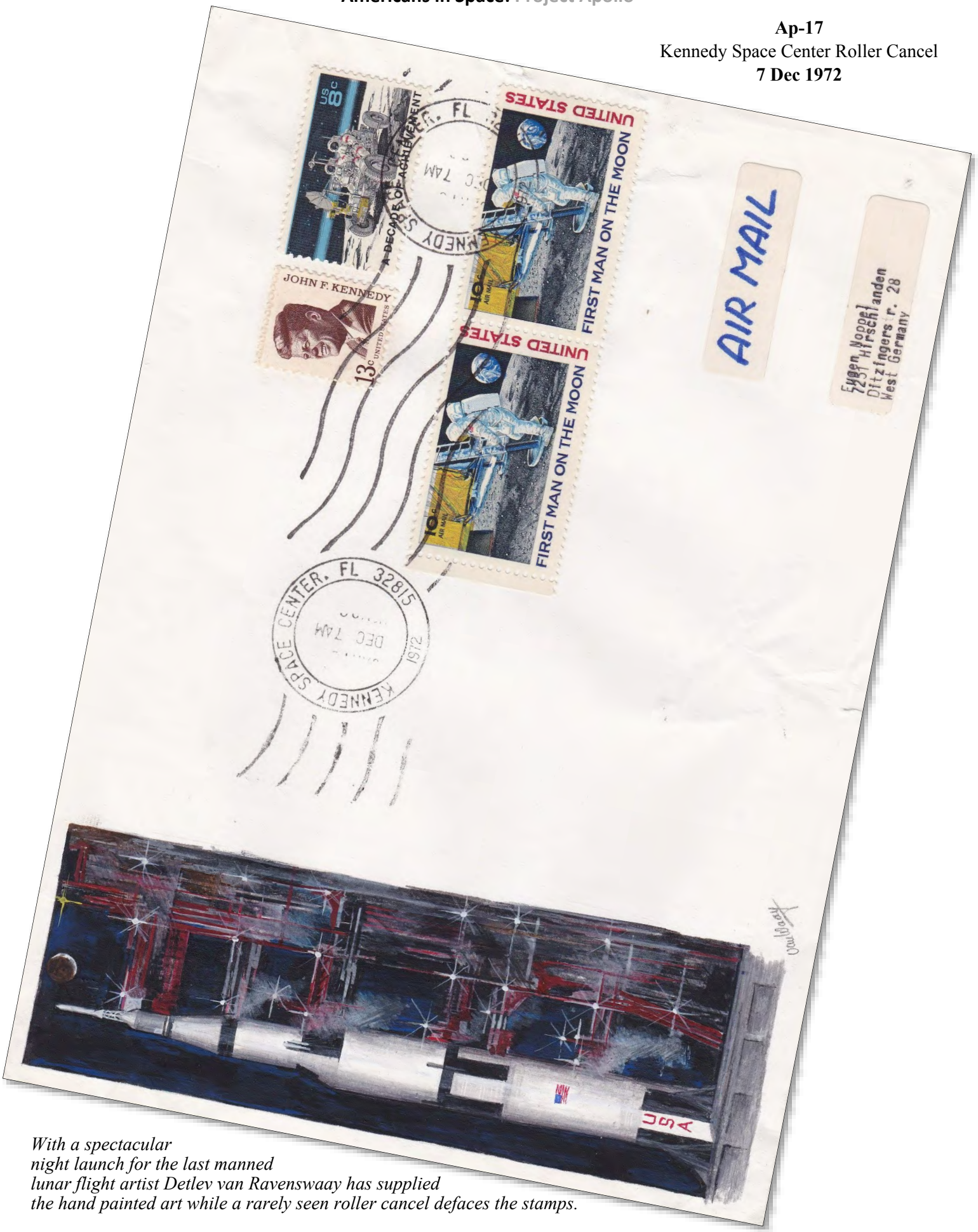
Ap-16 Kennedy Space Center Machine Cancel (Open globe) **16 Apr 1972**

The second of the "J missions" meant three days on the moon and more science.

Ap-16 *USS Ticonderoga* Hand Cancel **27 Apr 1972**

International Airmail rate applied to an oversized Prime Recovery Ship envelope with a Commander in Chief Pacific corner card addressed in a VIP in the Australian Navy.

Ap-17
Kennedy Space Center Roller Cancel
7 Dec 1972

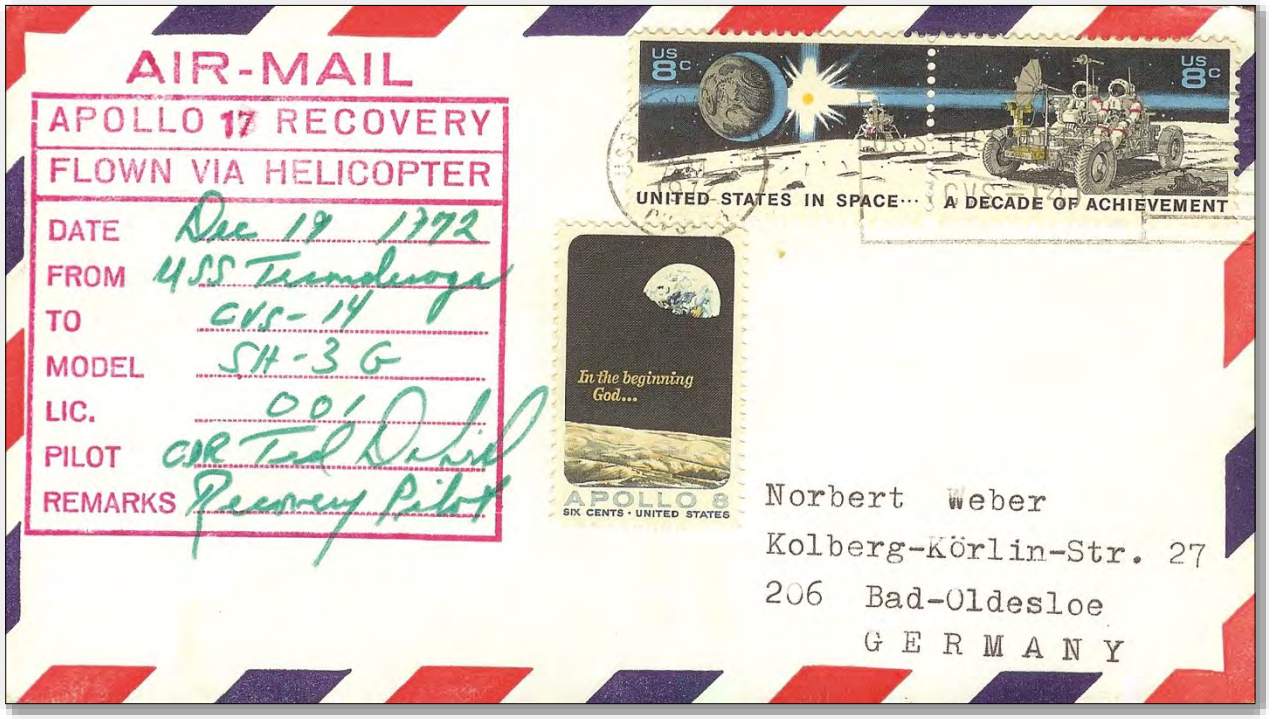


With a spectacular night launch for the last manned lunar flight artist Detlev van Ravenswaay has supplied the hand painted art while a rarely seen roller cancel defaces the stamps.

Ap-17 Houston Hand Cancel **6 Dec 1972**

The launch was just after midnight on 7 Dec from KSC. After clearing the tower control transferred to the Manned Spaceflight Center in Texas where the local time was an hour earlier. For about a half hour it was still 6 Dec.

Ap-17 *USS Ticonderoga Machine* Cancel **22 Dec 1972**



A number of envelopes (here overpaying the international airmail rate) were flown as a courtesy for collectors. The scarce ship Machine Cancel was used a few days later.

ASTP Patrick Air Force Base Machine Cancel **15 Jul 1975**

In addition to ground stations and stations at sea, airborne range instrumentation aircraft also gathered and disseminated critical flight-related data.

ASTP *USS New Orleans* Hand Cancel **25 Jul 1975**

With philatelic requests excessive for an operational ship at sea some of the later Apollo mission requests were cancelled in Hawaii. This envelope was onboard and postmarked the day after the mission since the postal unit was closed the previous day.