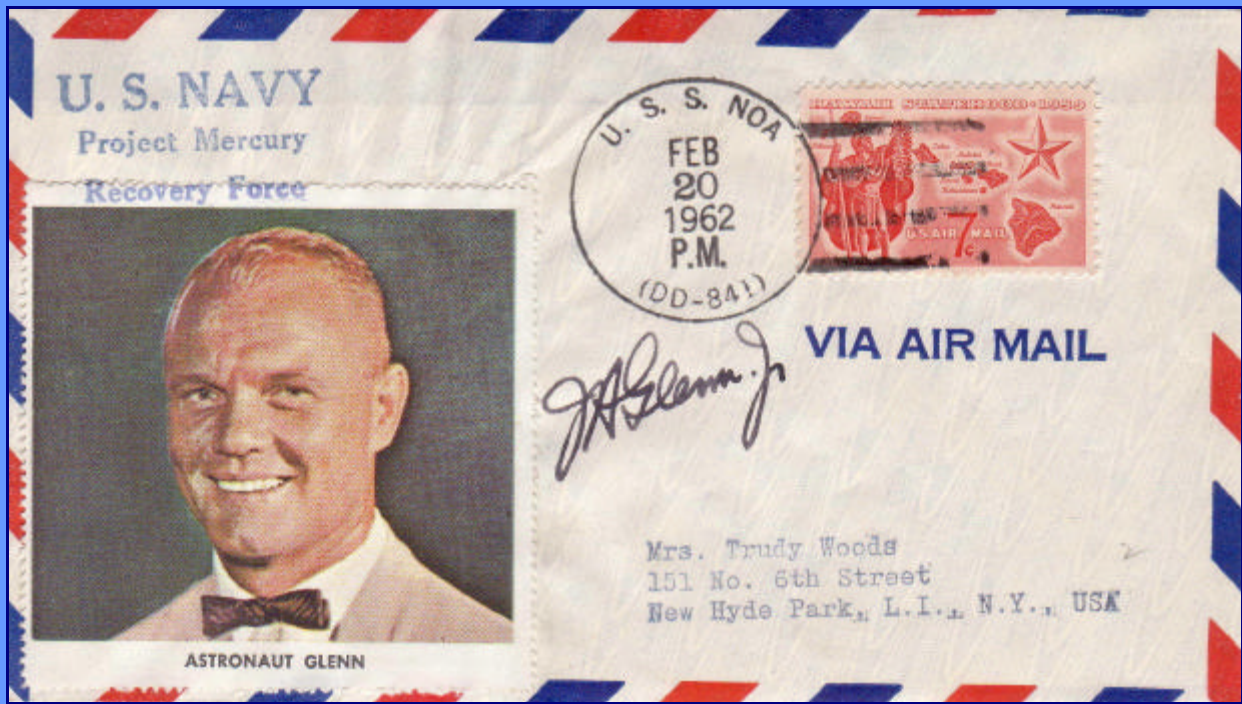


# Project Mercury Points the Way



*A rare primary recovery ship cover is shown for USS Noa's recovery of Astronaut John Glenn from the Atlantic Ocean near Grand Bahama Island on his orbital flight, February 20, 1962. The USS Noa cover with PM in the postmark is one of the most difficult recovery ship covers to find for space cover collectors.*

by Steve Durst

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# Preface

I grew up in the early days of the development of America's space program as Project Mercury unfolded like a serial show in the local movie theater with both incredible failures and stunning successes. For those of us who grew up in this period, the space program seemed magical. The thought that we could launch rockets into space to give us a new perspective of what the earth looked like, that a new breed of hero, the Astronaut, could capture the attention and imagination of all of us, and that these Astronauts would want to blast off into space on a rocket in a spacecraft was incredible. The determination and can-do ability of these military test pilots, scientists, engineers, and visionaries, men and women alike, still hold my utmost respect and admiration.

Many people assisted me in putting this study together including fellow space history buffs and my core group of space cover collectors, including: Tom Steiner, President of the American Philatelic and American Topical Association's Space Unit; Dr. Ben Ramkissoon, President Emeritus and Past President of the Space Unit; Dennis Dillman, member of the Space Unit and correspondent for the *Astrophile* journal; and Dr. Ross Smith a fellow independent researcher in space history. Special encouragement also came from writer and friend Jack McMahan in Houston, Texas, who always seemed to be able to answer my questions about NASA that I thought were too basic to ask. As a result of talking to Jack, I've learned that there are many questions that need to be asked, and you need to ask them to get the answers to them.

A considerable amount of my research is based upon review and analysis of NASA publication SP-4201, *This New Ocean, A History of Project Mercury*, written in 1966 by Loyd Swenson, James Grimwood, and Charles Alexander. I highly recommend this detailed reference. It is a very remarkable work. My review of *This New Ocean*, also finds this noteworthy comment by the authors, "The foremost image of Mercury emerging from its mountainous publicity was that of seven selected test pilots called "Astronauts." Central as were their roles and critical as were their risks in the individual manned flights, the Astronauts themselves did not design, develop, or decide the means and ends of the overall program. Thousands of engineers, scientists, technicians, and administrators, as well as the seven Astronauts, cooperated to fulfill Mercury's goals, and this program history tries to blend and balance the personal, social, and technical facets of the project as it progressed."<sup>1</sup>

Many years later, there is significant research in this area that still needs to be done to build upon the work of Project Mercury historians Swenson, Grimwood, and Alexander at the beginning of the American space program. It is hoped that this study of the early American space program will inspire readers, history enthusiasts, space collectors, and future Astronauts to embark upon this remarkable journey.

Steve Durst

April 2008

steve.durst@comcast.net

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<sup>1</sup> Swenson, Loyd; Grimwood, James; and Alexander, Charles; "This New Ocean: A History of Project Mercury", NASA, Washington, DC, 1966, pg. xii.

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## Astronauts of Project Mercury



The Seven Project Mercury Astronauts in Flight Gear in Front of a USAF F-106B Interceptor, photo courtesy of NASA.

The seven Project Mercury Astronauts are pictured beside a U. S. Air Force F-106B Interceptor used for their flight training. From left to right, the Project Mercury Astronauts are Malcolm Scott Carpenter, Leroy Gordon Cooper, Jr., John Herschel Glenn, Jr., Virgil Ivan (Gus) Grissom, Walter (Wally) Marty Schirra, Jr., Alan Bartlett Shepard, Jr., and Donald Kent (Deke) Slayton.



## Women of Project Mercury, the Mercury 13



Lady Astronaut Trainee, Jerrie Cobb, photo courtesy of VOA.

Among the unsung heroes of Project Mercury is a small group of 13 women who share a dream to become America's first women Astronauts. Working with the U. S. Air Force, Dr. William R. Lovelace assists in the development of tests for NASA's male astronauts but also embarks on a detailed study to test women to see how well they will perform on the same battery of tests. In 1960, he invites accomplished pilot Geraldyn Cobb (above) to undergo the same stressful and rigorous tests he had developed for male Astronauts. Cobb becomes the first American woman to pass all three phases of Lovelace's Woman in Space Program tests.<sup>2</sup>



Lady Astronaut Trainee, Jerri Truhill, photo courtesy of mercury13.com.

The 13 qualified women from the Lovelace tests are: Jerrie Cobb, Wally Funk, Irene Leverton, Myrtle "K" Cagle, Janey Hart, Gene Nora Stumbough (Jessen), Jerri Sloan (Truhill), Rhea Hurrle (Woltman), Sarah Gorelick (Ratley), Bernice "B" Trimble Steadman, Jan Dietrich, Marion Dietrich and Jean Hixson.<sup>3</sup> NASA does not allow the group to continue, but these ladies smooth the way for other women to enter and excel in America's Space Program.

<sup>2</sup> NASA web site; as cited, [http://www.nasa.gov/missions/highlights/f\\_mercury13.html](http://www.nasa.gov/missions/highlights/f_mercury13.html).

<sup>3</sup> NASA web site; as cited, <http://history.nasa.gov/flats.html>.

## Before Big Joe, the Flight of Little Joe-1

Wallops Island, Virginia, August 21, 1959

Primary Recovery Ship, USS Salvager, ARSD-3, with Marine Air Group-26 (MAG-26) Helos

Thirty-five minutes prior to launch it happens. There is an explosive flash and a thunderous roar, spectators, newspaper reporters, and NASA engineers dive for cover on August 21, 1959. The Little Joe-1 space capsule and escape tower have launched from the launch pad at Wallops Station!<sup>4</sup>



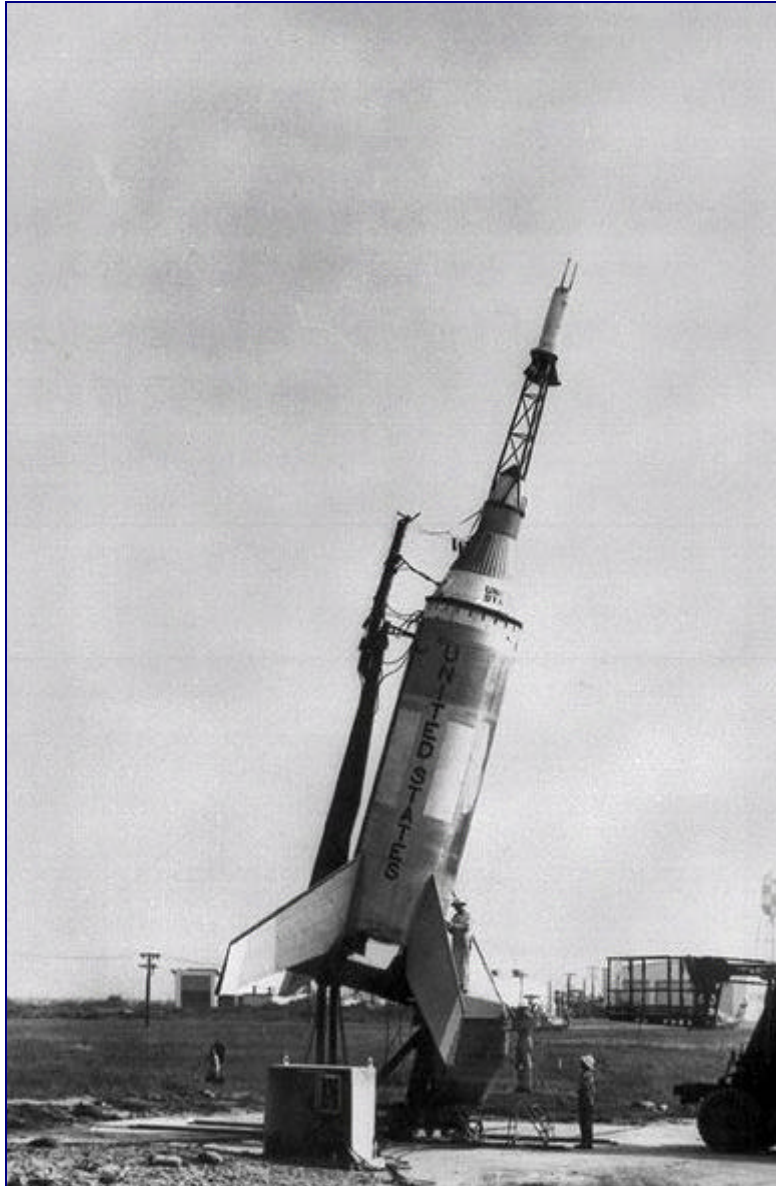
Placing the Little Joe-1 Capsule on its Rocket Booster at Wallops Island, photo courtesy of NASA.

As smoke from the launcher dissipates, it becomes clear that only the capsule and escape tower have launched. The booster and its adapter clamp ring remain in place on the launcher. Near the capsule's apogee at 2,000 feet, the clamping ring holding the tower releases, the pyro rocket fires, and the escape tower falls away as the capsule begins its descent back to the operating area.<sup>5</sup>

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<sup>4</sup> Ibid., pg. 208.

<sup>5</sup> NASA Kennedy Space Center Web Site, <http://science.ksc.nasa.gov/history/mercury/lj-1/lj-1.html>.



Little Joe-1 Ready for Launch, photo courtesy of NASA.

*Little Joe-1 is poised on the launcher for the first test of the Project Mercury Little Joe series, August 21, 1959, at Wallops Island, VA.*

As a result of Little Joe-1's misfiring, the capsule's parachute also does not deploy properly. The capsule and escape tower slam into the water one mile offshore with the capsule being smashed into pieces and sinking. Pieces of the capsule are subsequently recovered by U. S. Navy auxillary vessel, USS Salvager, ARSD-3, and USMC helos from MAG-26.<sup>6</sup> The first Little Joe test fails and will have to be retried. NASA engineers determine that the failure causing the accident is a firing signal initiated by transient voltage in a relay circuit just prior to launch.<sup>7</sup>

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<sup>6</sup> Schultz, Donald, "Project Mercury...One Step Into Space," Appleton, WI, 1967, pg. 6.

<sup>7</sup> Swenson, Grimwood, and Alexander, Op. Cit., pg. 208.





Unlaunched Little Joe-1 Booster Rocket, photo courtesy of NASA.

*The Little Joe-1 rocket booster is shown just after the space capsule has prematurely fired and aborted. Note, the adapter clamping ring is still attached to the booster rocket.*

Ironically, the fault causing the premature launch is found in a relay coil that was specifically designed as a redundant feature to protect biological test specimens from too rapid an abort sequence and possible inadvertent destruction of the test booster rocket. Upgrading the rocket to provide safety for biological payloads and to assure mission success had created another, unanticipated problem<sup>8</sup>.

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<sup>8</sup> NASA History Division, web site; as cited, <http://history.nasa.gov/SP-4201/ch7-7.htm>.



USS Salvager Underway, photo courtesy of Richard Leonhardt.

*USS Salvager, ARSD-3, is pictured underway during the period of Little Joe recovery operations at Wallops Island. There is no post office on board the U. S. Navy auxiliary salvage vessel, and no covers are known for its recovery of the Little Joe -1 capsule.<sup>9</sup>*

Primary Recovery Ship for Little Joe-1 Test			
Ship, Hull Number	Difficulty / Value	Type	Comment
USS Salvager, ARSD-3, with MAG-26 Helos	Rare / High	PRS	None known.

Note: No primary recovery ship covers are known for the Little Joe-1 test flight at Wallops Island, Virginia.

<sup>9</sup> McMahan, Jack, "McMahan's Philatelic History of the Conquest of Space," Houston, Texas, 1972, pg. 21.

## Little Joe-1 Flight



Wallops Station During Little Joe Test Series, from the author's collection.

The photo above shows the main rocket launching facility at Wallops Station, Wallops Island, Virginia, under the National Aeronautics and Space Administration during the Little Joe Project Mercury test series. There are no covers or postcards with dates of the initial rocket tests conducted at this facility.

Secondary Recovery Ships for Little Joe-1			
Ship, Hull Number	Difficulty / Value	Type	Comment
		SRS	None known.

## Overview of Little Joe Tests for Project Mercury<sup>10</sup>

Mission	Date	Covers Exist	Primary Objectives / Test Results
Little Joe-1	August 21, 1959	No	Max pressure (Q) abort and escape / Fail
Little Joe-6	October 4, 1959	Unknown	Spacecraft aerodynamics and integrity / Partial
Little Joe-1A	November 4, 1959	Yes	Max Q abort and escape (retest of LJ-1) / Partial
Little Joe-2, SAM	December 4, 1959	Yes	Primate escape at high altitude / Pass
Little Joe-1B, Miss SAM	January 21, 1960	Yes	Primate max Q abort and escape / Pass
Little Joe-5	November 11, 1960	Yes	Qualify Mercury Atlas combination, max Q / Fail
Little Joe-5A	March 18, 1961	Yes	Max Q escape and impact (retest of LJ-5) / Pass, Partial
Little Joe-5B	April 28, 1961	Yes	Max Q escape and sequence (retest of LJ5A) / Pass, Partial

Note: Suspect covers exist for Little Joe-6, Little Joe-1A, Little Joe-2, Little Joe-1B, and Little Joe-5A. See the examples of these covers provided on pages 22 and 30.

<sup>10</sup> Swenson, Grimwood, and Alexander, Op. Cit., pgs. 638-641.





Model of Little Joe Booster, Space Capsule, and Escape System, photo courtesy of NASA.

*The vintage photo above shows the engineering wind tunnel model of the Little Joe rocket booster, Project Mercury spacecraft and abort escape tower used to qualify the design of the Little Joe and Project Mercury launch-escape system under flight conditions.<sup>11</sup>*

Concerning the importance of the Little Joe test series, Space Task Group Director Robert Gilruth says, "We had to be sure there were no serious performance and operational problems that we had simply not thought of in such a new and radical type of flight vehicle."<sup>12</sup>

<sup>11</sup> NASA Multimedia Site, NIX; as cited, <http://nix.ksc.nasa.gov/info.jsessionid=6k071qgntimd9?id=EL-2002-00306&orgid=1>.

<sup>12</sup> Ibid.



## **A Short Ride in a Fast Machine, the Suborbital Flight of Big Joe-1**

**Cape Canaveral, Florida, September 9, 1959**

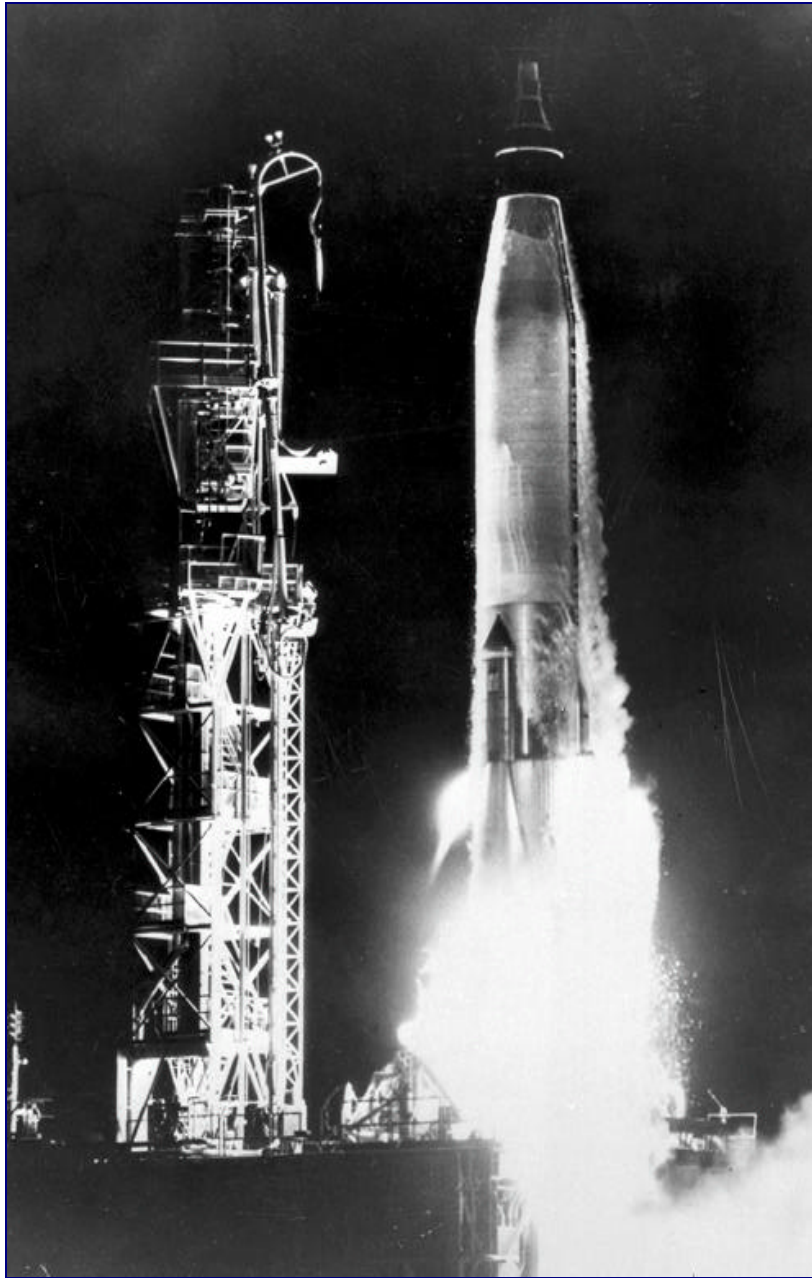
**Primary Recovery Ship, USS Strong, DD-758**

The anticipated flight of Big Joe-1 seems to be one delay after another since the originally scheduled launch date of July 4, 1959. The latest hold is due to instrumentation and telemetry problems identified by Space Task Group Langley's engineers. The hold is finally cleared, and the countdown for launch begins again on September 8, 1959.



Final Preparations for the Launch of Big Joe-1, from the author's collection.

Big Joe-1 is a production level Atlas-D rocket with a Mercury capsule as its payload. Project Mercury engineering attention is centered on the space capsule with over 100 thermocouples attached to the skin, body, and under the heatshield of the Atlas to measure temperatures.<sup>13</sup>



Launch of Big Joe-1 at Cape Canaveral, photo courtesy of NASA.

Early in the morning at 3:19 am on September 9, 1959, Atlas booster 10-D with its boilerplate mock-up of a Project Mercury spacecraft with the unlikely name of Big Joe-1 rockets from Cape Canaveral, Florida, into the dark sky on a 13 minute, 1,496 mile ballistic flight down the Atlantic Missile Range.<sup>14</sup>

The primary objective of the flight is to analyze closely what an Astronaut must ride through if he is to survive an Atlas-D rocket's launch, reentry, and splashdown in his Mercury spacecraft from a flight into

<sup>13</sup> NASA Kennedy Space Center Web Site; <http://science.ksc.nasa.gov/history/mercury/bj-1/bj-1.html>.

<sup>14</sup> NASA, Kennedy Space Center Web Site; <http://science.ksc.nasa.gov/history/mercury/bj-1/bj-1.html>.

space.<sup>15</sup> Originally two Big Joe tests are planned in the event a test failure occurs, but this first test is successful, and a second Big Joe test is not needed.<sup>16</sup>



Atlas Rocket on the Launch Pad, photo courtesy of NASA.

*For collectors, finding the Big Joe -1 launch and recovery date of September 9, 1959, on a Cape Canaveral Florida, postcard makes the item a premium item. For postcard and cover collectors, the item is especially desirable if the rocket pictured is an Atlas rocket, as is the Big Joe -1 launch vehicle.*

The Mercury boilerplate spacecraft performs well in the Big Joe-1 test, although the Atlas booster's two outboard engines fail to separate from the centerline rocket engine after completing burnout. The added weight to the rocket booster retards the rocket's velocity. Consequently, the capsule separates from the rocket booster 2 minutes and 18 seconds later than anticipated in the mission profile. This results in the capsule splashing down 500 miles short of its anticipated splashdown point.

Navy Neptune P2V search aircraft locate the capsule 3 hours and 31 minutes after launch, and 4 hours later, the destroyer USS Strong, DD-758, radios the Mercury Control Center that it has located the

<sup>15</sup> NASA History Web Site; <http://history.nasa.gov/SP-4201/ch7-6.htm>.

<sup>16</sup> Swenson, Loyd; Grimwood, James; and Alexander, Charles, "This New Ocean, A History of Project Mercury," NASA, Washington, DC, 1966, pg. 126.



spacecraft and has successfully made its recovery.<sup>17</sup> The Big Joe-1 flight is the first significant test of the Atlas launch vehicle with a Project Mercury spacecraft,<sup>18</sup> and the flight of Big Joe-1 lives up to its name.



Big Joe Recovery Date, Cape Canaveral Florida, photo courtesy of NASA.

In the collecting community, only postcards commemorate the launch and recovery of the Big Joe-1 spacecraft. The cancellation date on this postcard is September 10, 1959, the date for return of the Big Joe-1 capsule to Cape Canaveral. However, the September 10, 1959, return date to Cape Canaveral does not have the rarity or demand of the September 9, 1959 launch date. Both launch and recovery postcards for the Big Joe-1 test are usually unaddressed, not having gone through the mail stream as is usual for this key flight.

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<sup>17</sup> Ibid.

<sup>18</sup> Ibid.



USS Strong, DD-758, Leaving Port, photo courtesy of Joe Radigan, Navsource.org.

*USS Strong, DD-758, is the primary recovery ship for the retrieval of Big Joe-1's Mercury spacecraft in the Atlantic Ocean.<sup>19</sup> It takes the Navy recovery force and the USS Strong an agonizing eight hours to locate and recover the Big Joe -1 spacecraft.<sup>20</sup>*

## Big Joe-1 Suborbital Ballistic Flight

Primary Recovery Ship for Big Joe-1			
Ship, Hull Number	Difficulty / Value	Type	Comment
USS Strong, DD-758	Rare / High	PRS	None known.

Note: It is not known if any primary recovery ship covers exist for the Big Joe-1 suborbital ballistic flight.

<sup>19</sup> Schultz, Donald, "Project Mercury...One Step Into Space," Appleton, WI, pg. 7.

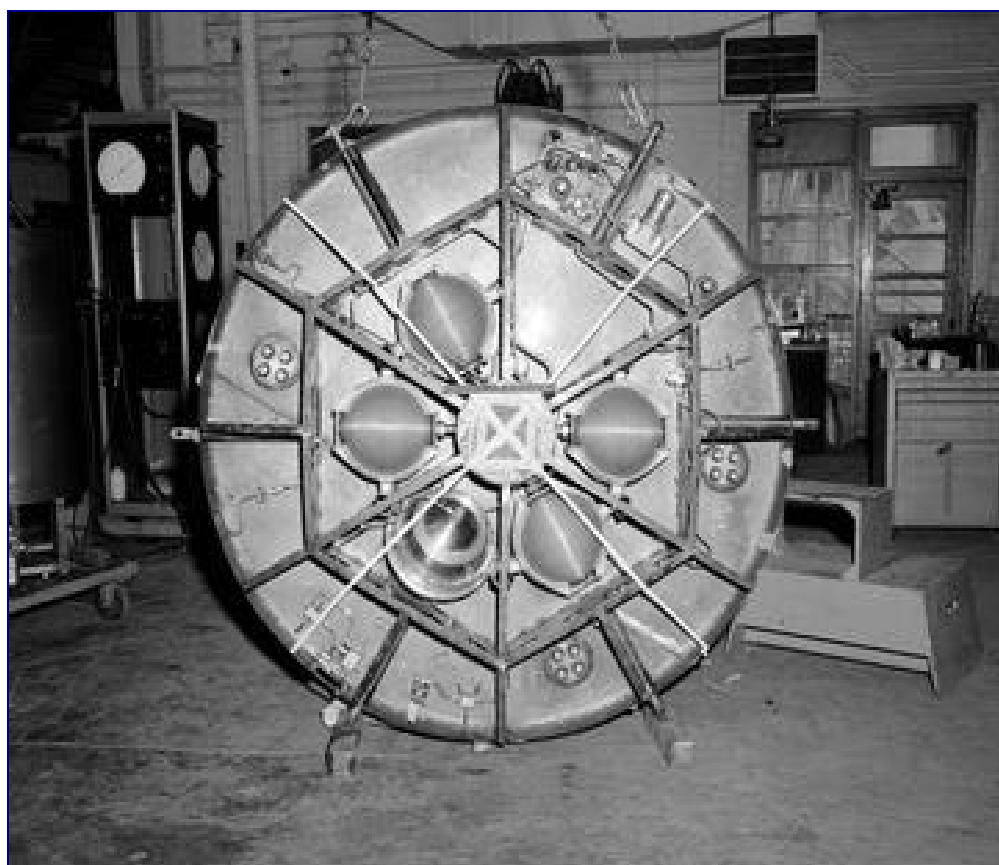
<sup>20</sup> Talay, Theodore, "The Flight of Mercury Atlas Big Joe," appearing in "Space Frontiers," Vol. 4, No. 5, September-October 1989, pg. 9.



## Secondary Recovery Ships for Big Joe-1

Ship, Hull Number	Difficulty / Value	Type	Comment
USS Turner, DDR-834	Very Difficult / High-Medium	SRS	None known.
USS Power, DD-839	Very Difficult / High-Medium	SRS	None known.
USS Borie, DD-704	Very Difficult / High-Medium	SRS	None known.
USS Harlan R. Dickson, DD-708	Very Difficult / High-Medium	SRS	None known.
USS Spiegel Grove, LSD-32	Very Difficult / High-Medium	SRS	None known.

Note: It also is not known if any secondary recovery ship covers exist for the Big Joe-1 flight.



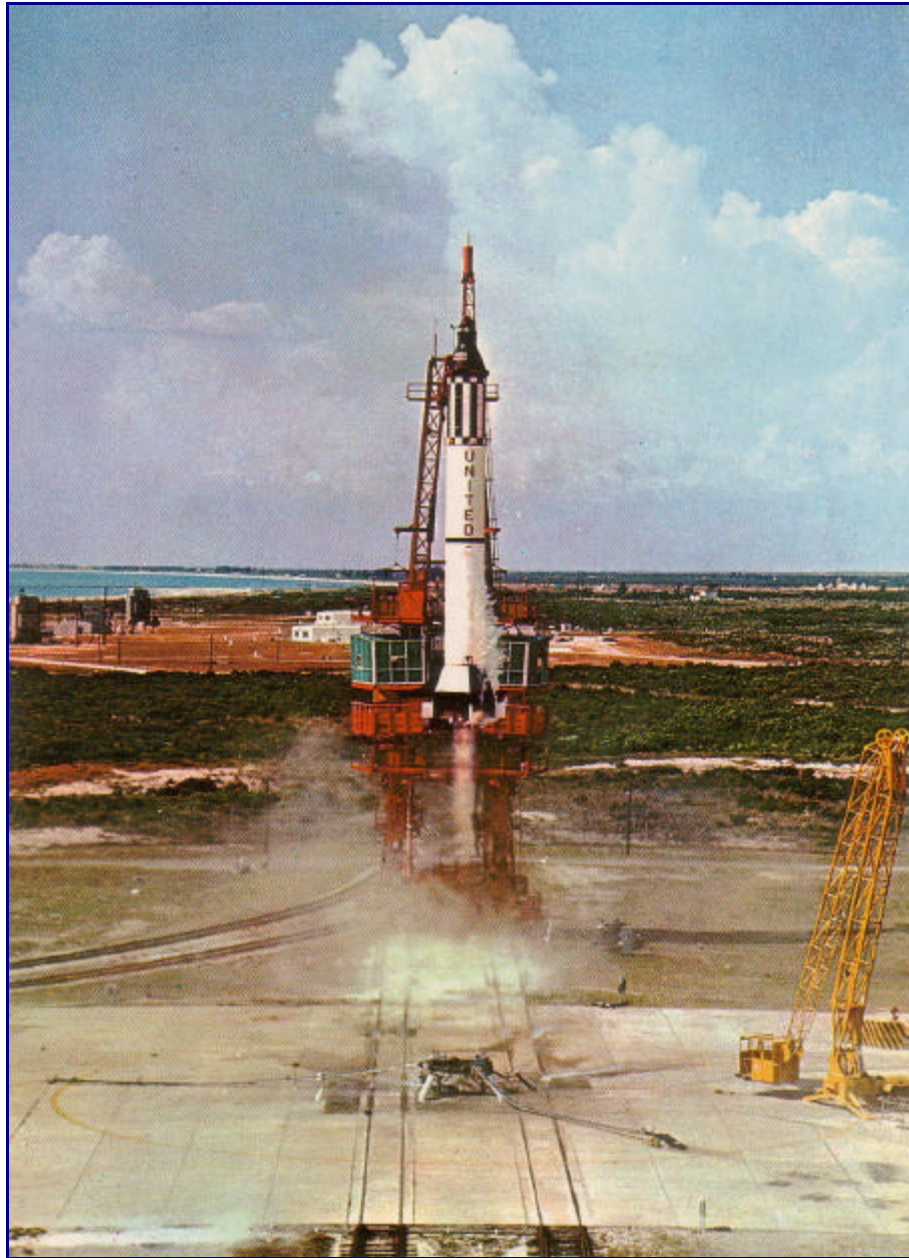
Fabrication of Big Joe-1 Spacecraft at Langley Research Center, Virginia, photo courtesy of NASA.

## The Cool Flight of Alan Shepard

**Mercury Redstone-3 and Freedom 7; Cape Canaveral, Florida, May 5, 1961**

**Primary Recovery Ship, USS Lake Champlain, CVS-39**

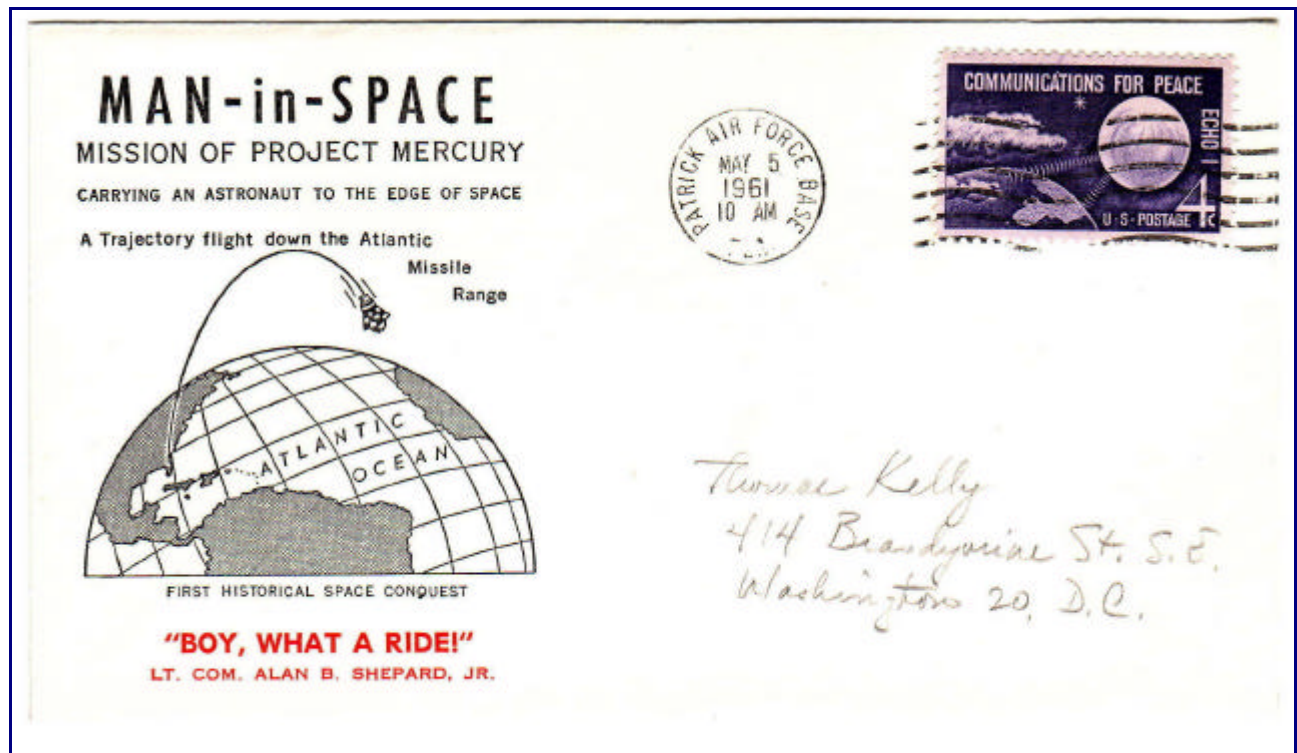
“Ah, Roger, lift-off and the clock is started,” accurately reports Astronaut Alan Shepard as Mercury Redstone-3 rockets into space May 5, 1961, into the partly cloudy sky of Cape Canaveral on America’s first manned space flight down the Atlantic Missile Range.<sup>98</sup> Alan Shepard’s stern and cool demeanor both before and during his flight and his coolness under stress during his recovery earn him the nickname of “the Icy Commander.”<sup>99</sup>



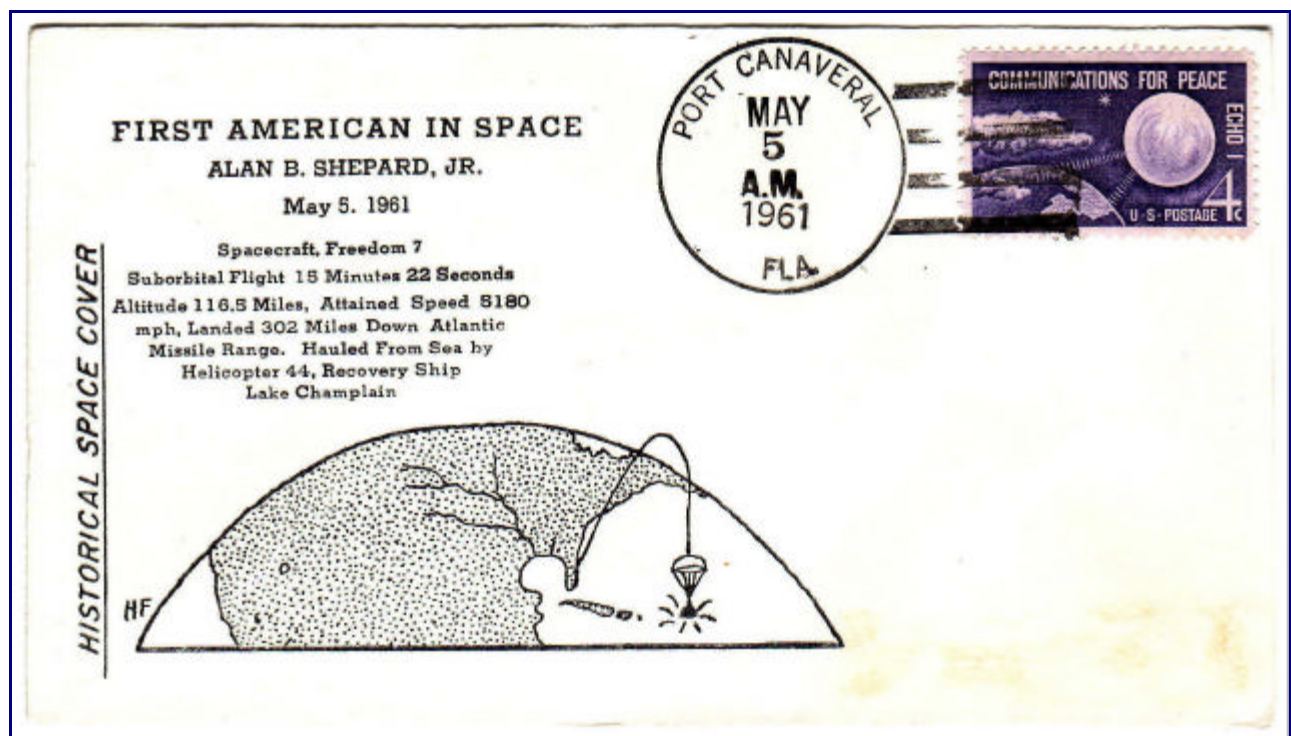
Alan Shepard's Launch in Mercury Redstone3, photo courtesy of NASA.

<sup>98</sup> Swenson, Loyd; Grimwood, James; and Alexander, Charles, “This New Ocean, A History of Project Mercury,” NASA, Washington, DC, 1966, pg. 341.

<sup>99</sup> CNN web site; <http://www.cnn.com/US/9807/22/obit.shepard.02/>.



A Spacecraft cover with Astronaut Alan Shepard's comment, "Boy, what a ride!" is pictured for Shepard's recovery in spacecraft Freedom 7 the morning of May 5, 1961, after his 15 minute flight.



Shepard's 15 minute and 22 second, ballistic, suborbital flight achieves an apogee of 116.5 miles and a reentry velocity of 5,234 miles per hour, but it is not as stunning or spectacular as the Soviet Union Cosmonaut Yuri Gagarin's heroic, one orbit flight a month earlier that beat the USA into orbital and manned space flight. However, Alan Shepard's manned space flight is an important start for the United States and gives validity to NASA's Project Mercury space program.





Recovery of Astronaut Shepard by MAG-26 Helo from USS Lake Champlain, photo courtesy of NASA.

In a smooth recovery operation with live international press coverage, Astronaut Shepard is quickly recovered by the helicopter HUS-1 crew of Marine Air Group-26 (MAG-26) from the USS Lake Champlain.<sup>100</sup> An American Astronaut has successfully flown in space!

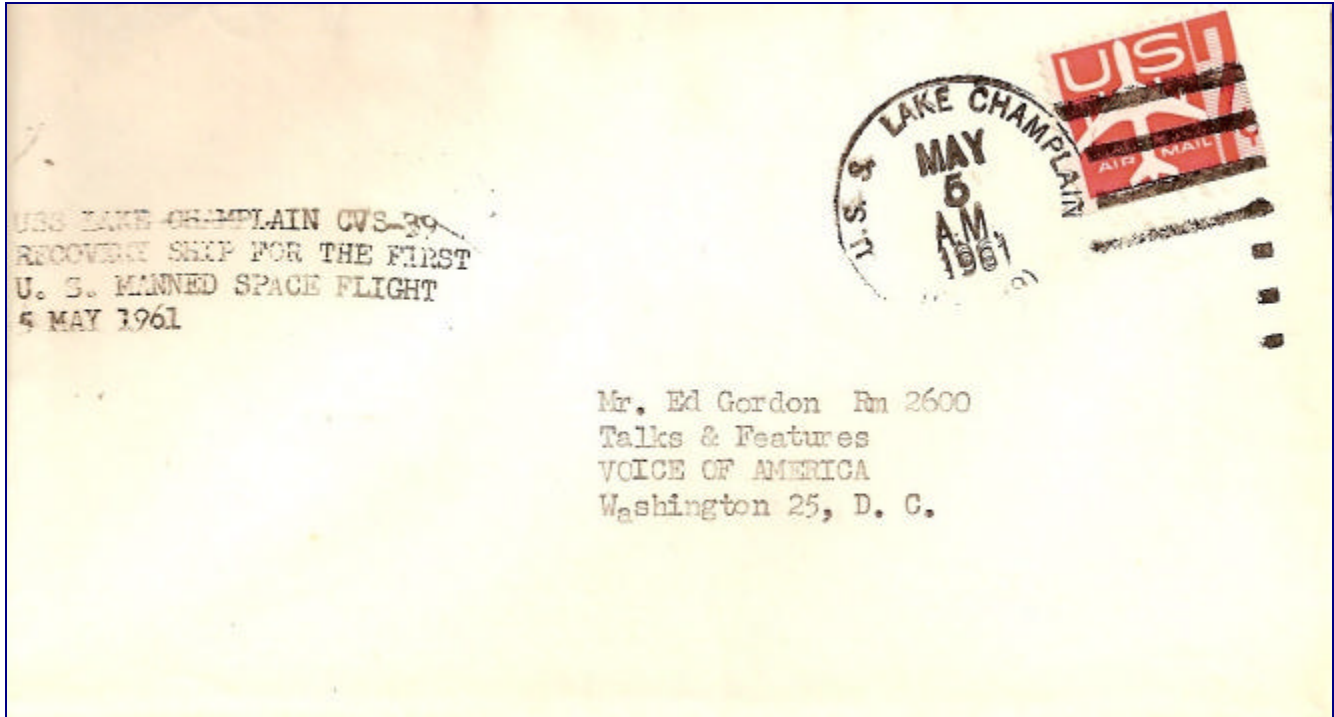


Almost There, MAG-26 Helo Crew Recovers Astronaut Shepard, photo courtesy of NASA.

<sup>100</sup> Navy Historical Center web site; <http://www.history.navy.mil/faqs/faq88-1.htm>.

In his post flight comments to the public, Alan Shepard strongly compliments what many people had considered to have been NASA “over training” the Project Mercury Astronauts and NASA’s over cautiousness for a manned space flight mission, causing America’s late entry in orbital flight behind the Soviet Union. In reality, though, NASA has no man-rated space capsules available for an orbital mission at the time of Astronaut Shepard’s launch. In the run-up to his launch, NASA perfects its space flight procedures and significantly improves astronaut training for its Project Mercury missions.<sup>101</sup>

## Primary Recovery Ship Covers for Astronaut Shepard’s Recovery



*Covering Astronaut Shepard’s recovery, journalist Thomas Kelly mails a USS Lake Champlain primary recovery ship cover to his friend Ed Gordon who will discuss Alan Shepard’s recovery on his radio program, “Talks and Features” at the Voice of America’s broadcast studio in Washington, DC.*

The USS Lake Champlain cover pictured is the “with dots” version of this extremely difficult to find primary recovery ship cover, called such because of dots or periods in the name of the ship, **U. S. S. Lake Champlain**, in the hand cancellation. Only 44 primary recovery ship covers are thought to exist with the majority of the recovery covers being the “no dots” version. Both versions of covers, though, are highly sought by collectors.<sup>102</sup> Additional discussion with Ross Smith of Australia notes that an unknown but small number of additional covers was mailed from the ship, possibly outside the normal mail closing that collectors, crew members, and ship’s visitors submitted. Crewmembers and visitors were also able to obtain cancelled covers for the recovery from the ship’s store as mementoes of the flight. These covers would not have gone through the U. S. mail.<sup>103</sup> What is known, though, is that the number of covers for Shepard’s recovery by the primary recovery ship, USS Lake Champlain, is very small.<sup>104</sup>

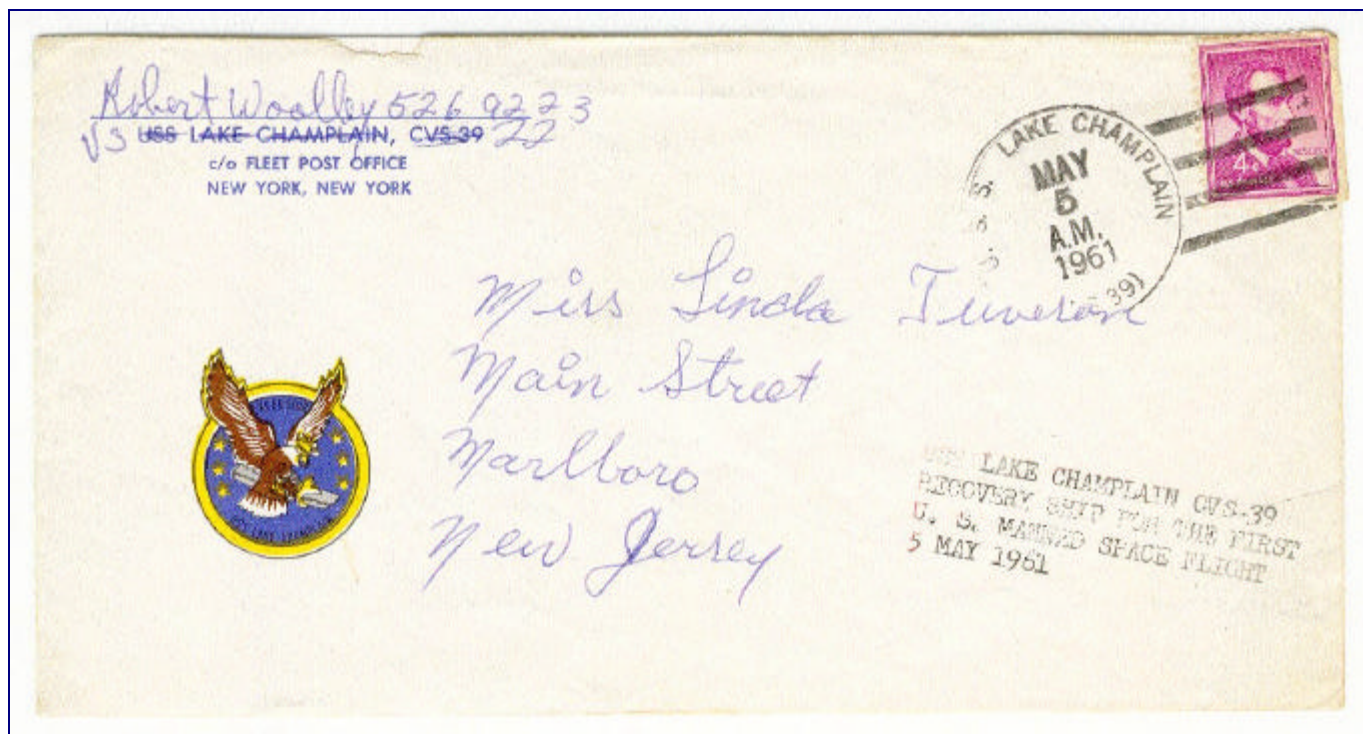
<sup>101</sup> Swenson, Grimwood, and Alexander, “This New Ocean,” Op. Cit., pg. 343.

<sup>102</sup> Conversation, Steve Durst and Tom Steiner, President Space Unit, November 17, 2006, at CHICAGOPEX 2006, Chicago, IL.

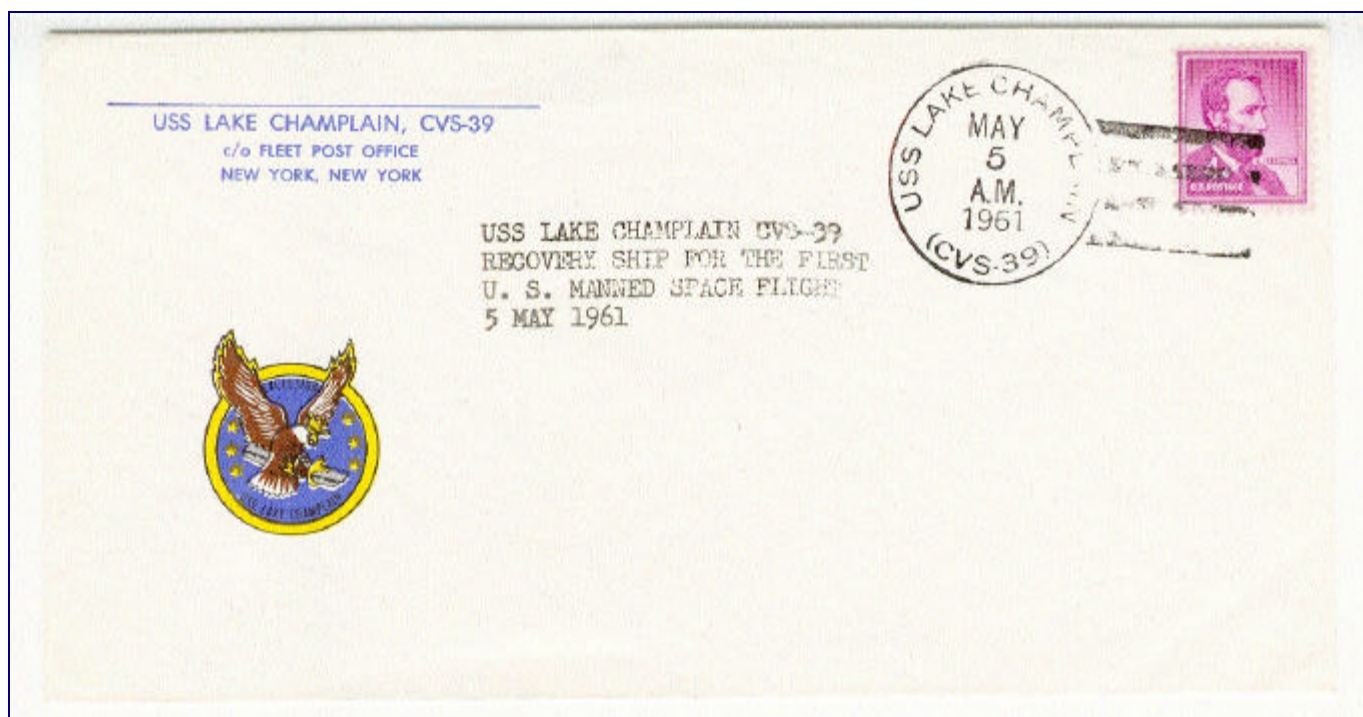
<sup>103</sup> Steiner, Tom, “Why Does Everyone Say 44?” “Astrophile,” Maspeth, New York, May 1990.

<sup>104</sup> Review, Steve Durst and Bob Glass, census of USS Lake Champlain PRS covers for the recovery of Astronaut Alan Shepard, April 10, 2005.



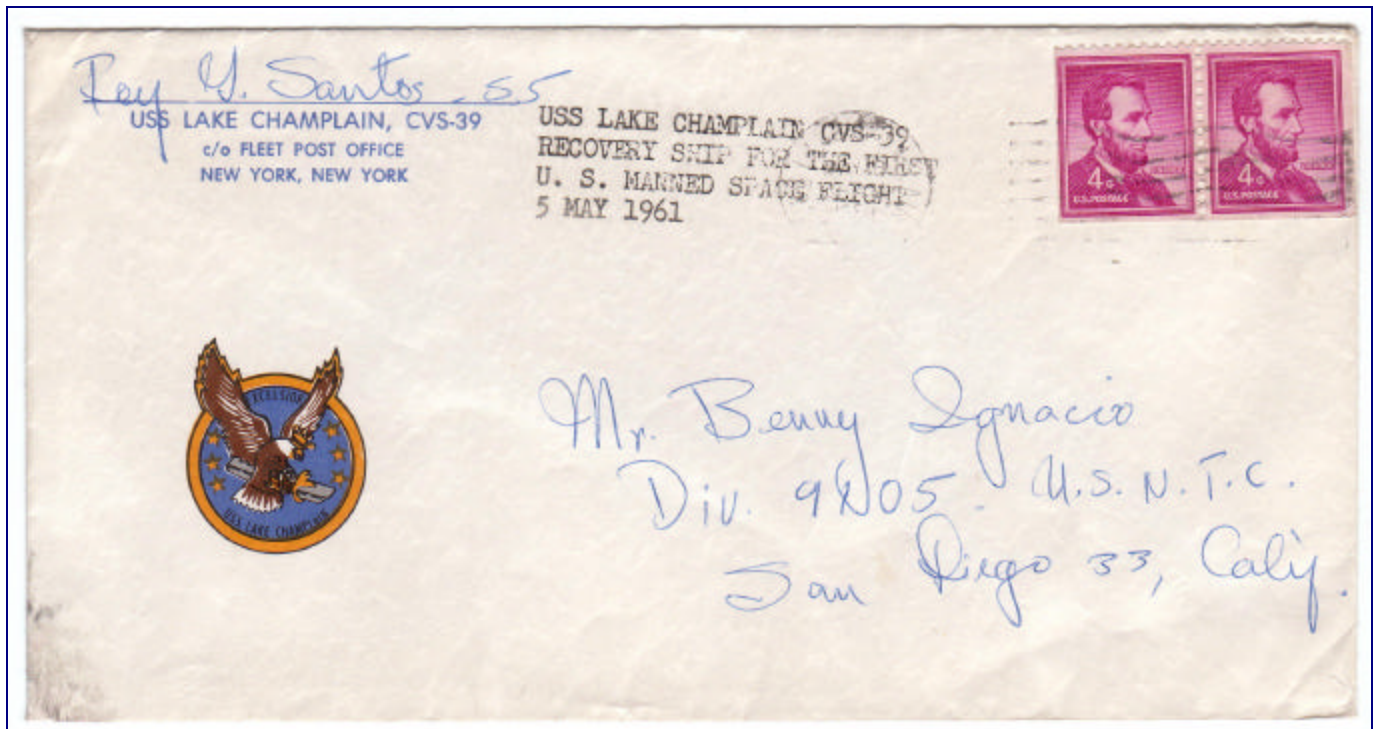


Another example of the “with dots” variety primary recovery ship (PRS) cover from the USS Lake Champlain, CVS-39, is pictured above. The cover is mailed from Navy Airman Robert Woolley to his girlfriend in Marlboro, New Jersey, upon the successful recovery of Astronaut Alan Shepard by the USS Lake Champlain in the Atlantic Ocean operating area near Grand Bahama Island. Airman Woolley has crossed out the name of the ship on this cover because he wants return mail from his girlfriend to be sent to him at his aircraft squadron, VS-22, and not to the ship’s post office.



A primary recovery ship cover “without dots” from the USS Lake Champlain, CVS-39, is displayed above. The cover is mailed from the ship upon the recovery of Astronaut Shepard near Grand Bahama Island. This cover is termed a “Captain’s cover” by many in the collecting community. In reality, though, it is a

“Crew cover” as it was available for purchase in the Ship’s Store by crew members. Note, also, the cover did not go through the mail stream, it was cancelled and kept as a memento of this important event.



A primary recovery ship cover with rare machine cancellation from the USS Lake Champlain, CVS-39, is shown. The cover is mailed to the U. S. Navy Training Center, San Diego, upon the recovery of Shepard. This is the only recorded crew cover with a machine cancellation from the USS Lake Champlain census of primary recovery ship covers for this flight conducted by Space Unit Director Bob Glass on April 10, 2005.



USS Lake Champlain at Sea, photo courtesy of the U. S. Navy.



Above, U. S. Navy aircraft carrier USS Lake Champlain, CVS-39, is pictured on station in the Atlantic operating area with a ready flight deck configuration for helicopter operations.

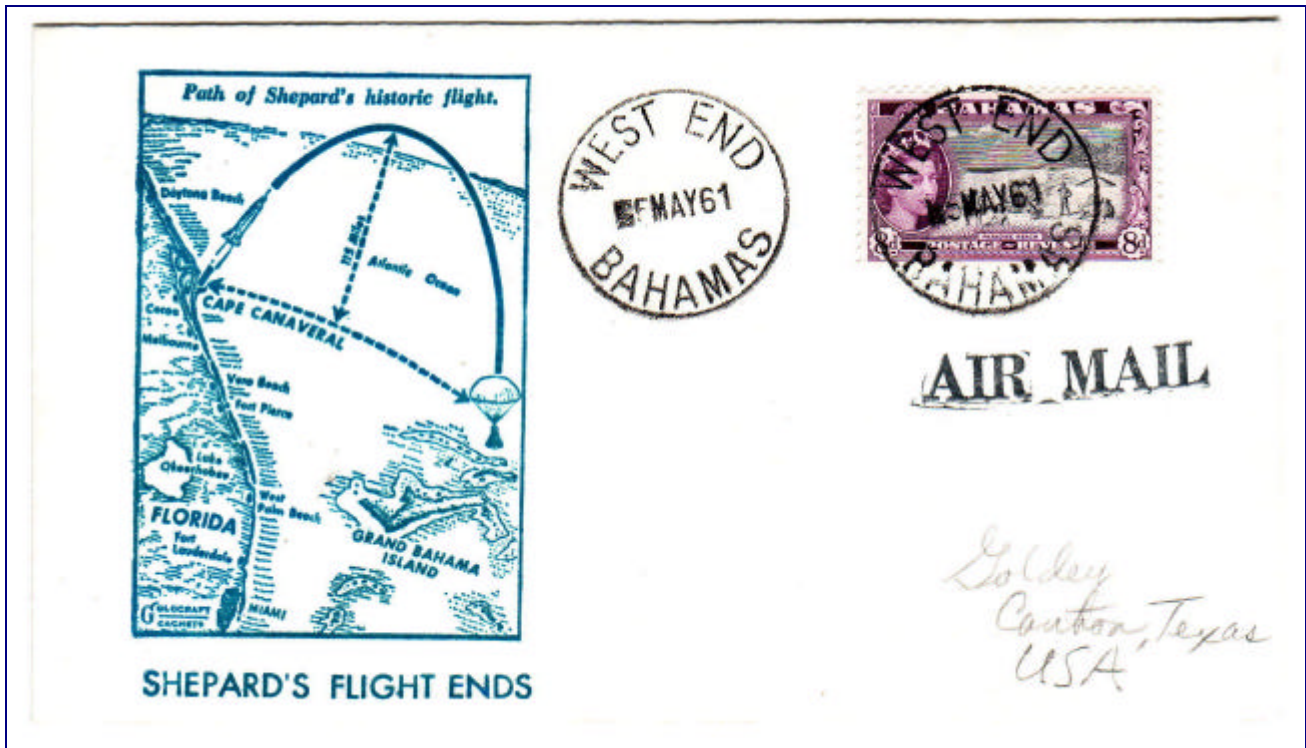
Primary Recovery Ship for Alan Shepard's Flight in Freedom 7			
Ship, Hull Number	Difficulty / Value	Type	Comment
USS Lake Champlain, CVS-39, with <b>no dots</b> .	Very Difficult / High	PRS	<b>Covers exist, May 5, 1961.</b>
U.S.S. Lake Champlain, CVS-39, with <b>dots</b> (periods after <b>U. S. S.</b> ).	Extremely Difficult / High	PRS	<b>A small number of covers exists, May 5, 1961.</b>
USS Lake Champlain, CVS-39, <b>with a machine cancel.*</b>	<b>Rare / Very High*</b>	PRS*	<b>Recovery date and machine cancel error of May 16, 1960. Cover may be unique.*</b>
USS Lake Champlain, CVS-39, no dots** (Suspect cover).	Nominal**	Suspect**	Suspect PRS cover is dated May 5, 1961.** See scan on page 111 in this article.

For abbreviations in tables, PRS is primary recovery ship, SRS is secondary recovery ship, and TS is tracking ship.

\* Note: The USS Lake Champlain primary recovery ship (PRS) cover with machine cancellation has an incorrect date due to the machine cancel die not being setup correctly for use and as known in the collecting community.<sup>105</sup>

\*\* Note: A suspect PRS cover for USS Lake Champlain exists. See page 111 for a scan of this cover.

<sup>105</sup> Schultz, Donald, "Project Mercury...One Step Into Space," Appleton, WI, 1966, pg. 44.



The recovery cover above artistically depicts Astronaut Alan Shepard's flight profile from his launch at Cape Canaveral, Florida, to his splashdown area on May 5, 1961 near Grand Bahama Island where Shepard is brought ashore and undergoes post flight debriefing and extensive medical testing.

### **Astronaut Shepard's Recovery Force, U. S. Navy Task Force 140**

With NASA's decision to recover Project Mercury capsules at sea, the U. S. Navy forms Task Force 140 under the Commander-in-Chief, U. S. Atlantic Fleet, Norfolk, Virginia, to accomplish this requirement. This force is not the usual Navy Task Force group but is an aggregate group of U. S. Navy and U. S. Coast Guard ships, U. S. Navy, U. S. Air Force, and U. S. Marine Corps aircraft squadrons, and smaller detachments including UDT and rescue teams participating in the mission as needed.<sup>106</sup>

Support requires extensive training and exercising of the Task Force, and then deployment well in advance of the mission launch to the respective primary launch area, and primary and alternate recovery areas. Navy EC-121 "Willy Victor" radar surveillance aircraft deploy from military bases in Guam and Newfoundland to provide on scene communications and surface surveillance. Later in the Project Mercury program, Task Force 130 is formed under the Commander-in-Chief, U. S. Pacific Fleet, to cover orbital missions and anticipated spacecraft recoveries in the Pacific Ocean.

<sup>106</sup> Navy Historical Center web site; <http://www.history.navy.mil/books/space/Chapter2.htm>.

## Secondary Recovery Ships and Tracking Ship for Alan Shepard's Flight

Ship, Hull Number	Difficulty / Value	Type	Comment
USS Decatur, DD-936	Difficult / Medium	SRS	None known.
USS Wadleigh, DD-689	Difficult / Medium	SRS	None known.
USS Rooks, DD-804	Difficult / Medium	SRS	None known.
USS Abbot, DD-629	Difficult / Medium	SRS	None known.
USS The Sullivans, DD-537	Difficult / Medium	SRS	None known.
USS Newman K. Perry, DD-883	Difficult / Medium	SRS	None known.
USS Recovery, ARS-43	Difficult / Medium	SRS	None known.
USS Ability, MSO-519	Difficult / Medium	SRS	None known.
USS Notable, MSO-460	Difficult / Medium	SRS	None known.
USNS Coastal Sentry, T-AGM 15, Atlantic Missile Range Tracking Ship	Difficult / Medium	TS	None known.

Secondary recovery ship covers for Shepard's flight may not exist. Smaller ships including destroyers, minesweepers, rescue salvage ships, and USNS ships do not have regular mail service at sea unlike the USS Lake Champlain which is able to fly mail onboard and off the ship while on duty in the operating area.





A Pensive but Icy Astronaut Alan Shepard, photo courtesy of NASA.



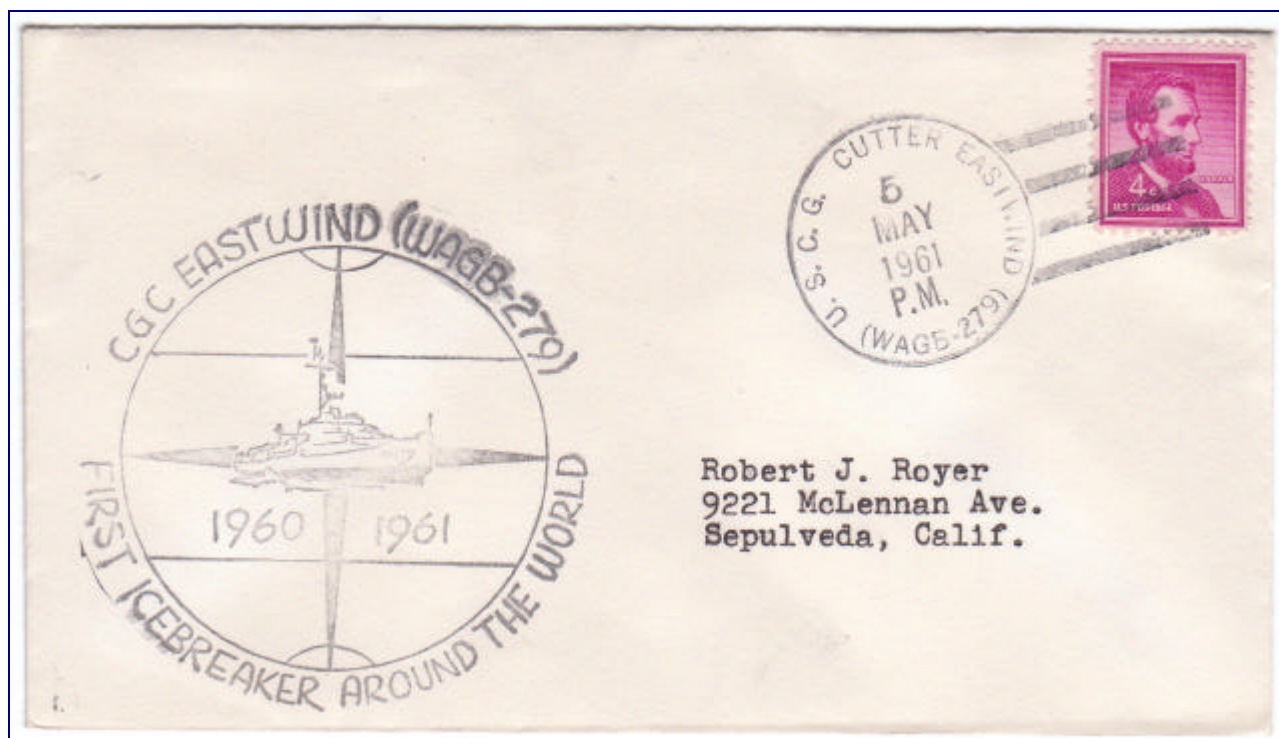
A special edition Spacecraft cover is pictured for Alan Shepard's launch date with a Patrick Air Force Base, Florida, machine cancellation of May 5, 1961. Only 300 of these covers are produced by the cachet makers, Joe Fitzpatrick and Carl Swanson, for their popular Spacecraft space cover series.

## Suspect Cover for USS Lake Champlain, CVS-39, Recovery of Astronaut Alan Shepard



The USS Lake Champlain primary recovery ship cover shown for Astronaut Shepard's recovery is thought to be a contrived cover and also appears to include a suspect autograph. The cover is thought to be a Riser suspect cover. As such, the cover has only a nominal value although it is collectible for reference and comparison purposes.

## Special Case, USCGC Eastwind, WAGB-279, Ship's Cover Dated May 5, 1961





It is generally believed in the recovery ship community that the US Coast Guard Cutter Eastwind, WAGB-279, acted as a “weather ship” for Astronaut Alan Shepard’s recovery. Recent independent research shows, though, that the **Coast Guard Cutter Eastwind did not participate either in the recovery operations for Freedom 7, or as a “weather ship”** for Shepard’s flight. The ship did not provide information to other ships or units for the recovery of Shepard.

Space Unit member Dennis Dillman in a review of the Cutter’s deck logs at the National Archives in Washington, DC, July 17, 2006, clarifies this information. His review of the USCGC Eastwind’s deck logs determines that on the date of Alan Shepard’s recovery, Eastwind is docked at the King Constantine Pier in Piraeus, Greece. The ship is not involved in recovery operations or duties as a “weather ship” or involved in any other recovery duties for Shepard’s flight as previously thought. It is coincidental that covers postmarked by the ship in port in Greece have the same date for the launch and recovery of Astronaut Alan Shepard near Grand Bahama Island.<sup>107</sup>



Alan Shepard Undergoing Preflight Training for Project Mercury, photo courtesy of NASA.

<sup>107</sup> Email correspondence, Steve Durst to Dennis Dillman, July 17, 2005, concerning his independent research reviewing USCGC Eastwind deck logs and the Coast Guard Cutter’s possible participation in Astronaut Alan Shepard’s recovery.

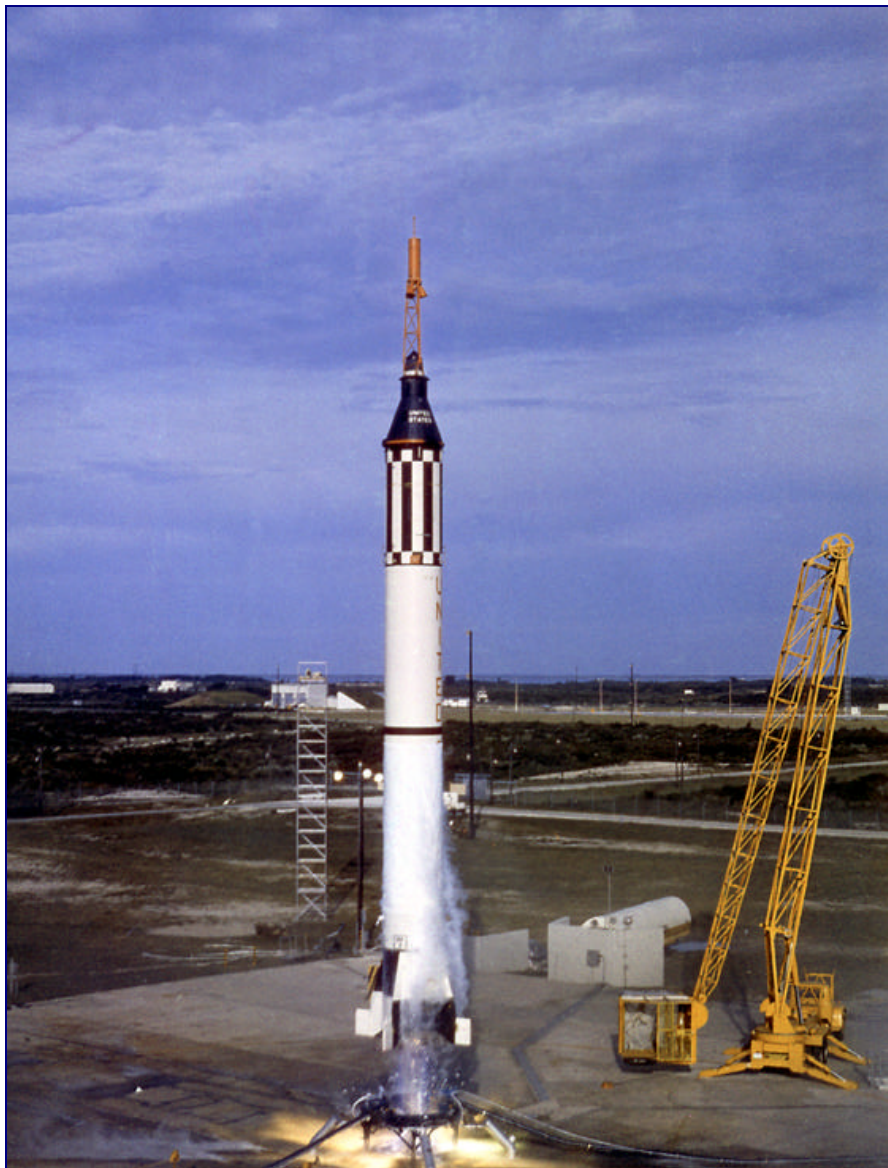
## **Swim Call, the Flight of Gus Grissom**

**Mercury Redstone-4 and Liberty Bell 7; Cape Canaveral, Florida, July 21, 1961**

**Primary Recovery Ship, USS Randolph, CVS-15 (Astronaut Grissom); and,**

**Salvage Ship “Ocean Project” (Spacecraft Liberty Bell 7, July 21, 1999)**

“I was lying there, minding my own business,” Astronaut Gus Grissom said, “...when I heard a dull thud!”<sup>108</sup> His explosive egress hatch cover, a new improvement for spacecraft Liberty Bell 7, is designed to permit emergency escape from his capsule if it is needed. The egress hatch has blown out, seawater is pouring in, his spacecraft is sinking, and Grissom is in it! Throwing away his helmet, he scurries out the tight hatch and swims a short distance away, stunned to see his spacecraft sink.

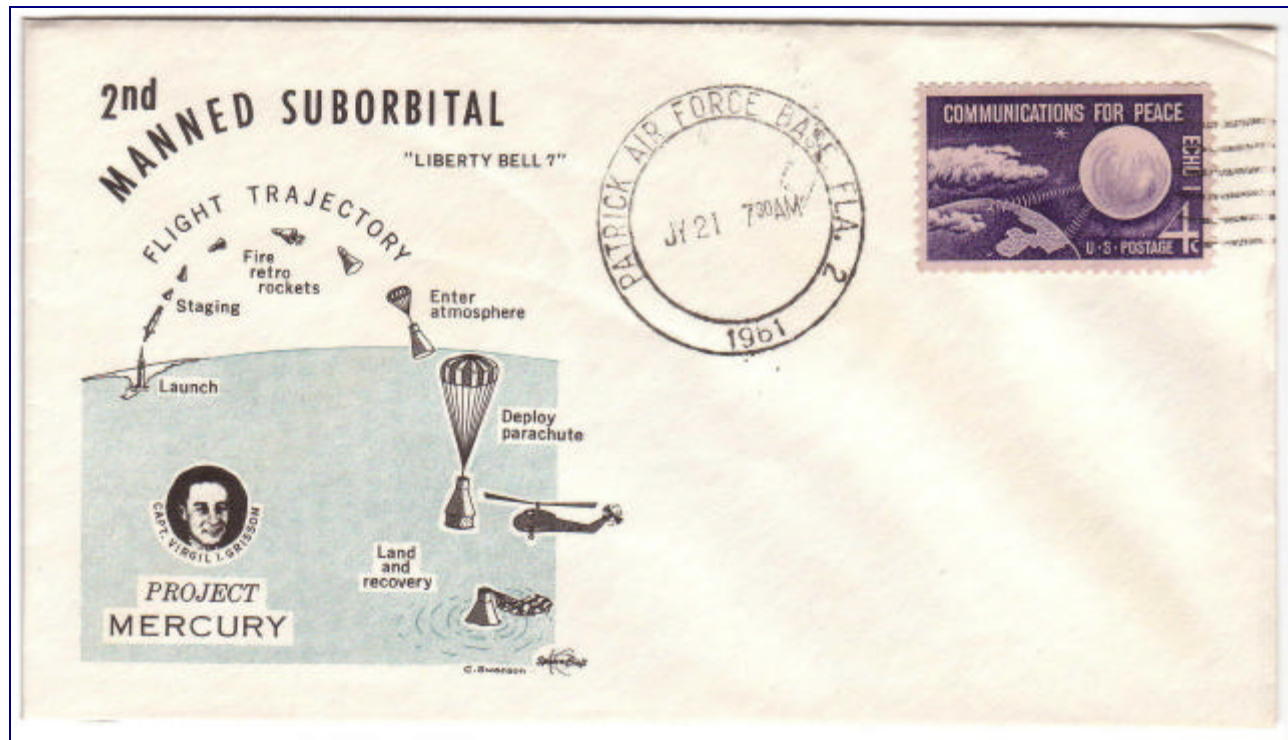


Launch of Astronaut Gus Grissom in Liberty Bell 7, photo courtesy of NASA.

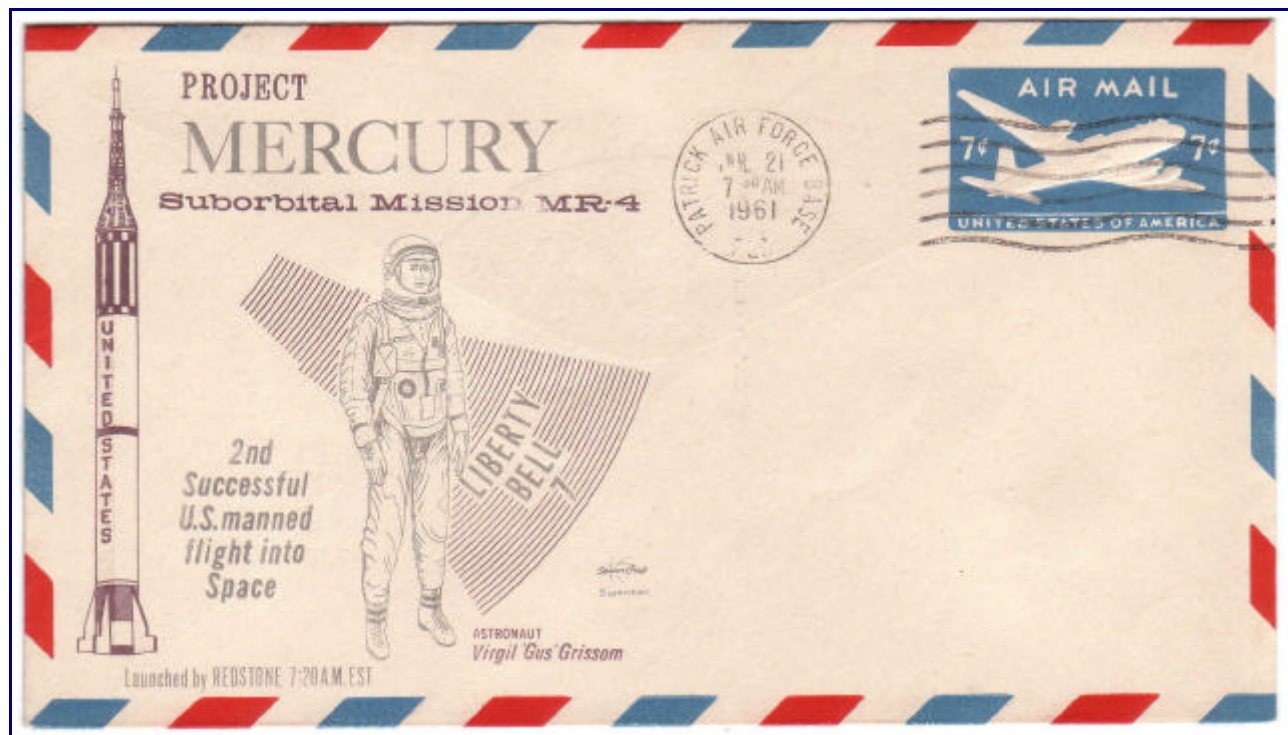
<sup>108</sup> Swenson, Loyd; Grimwood, James; and Alexander, Charles, “This New Ocean, a History of Project Mercury,” NASA, Washington, DC, 1966, pg. 373.



Mercury Redstone-4 with spacecraft Liberty Bell 7 rockets Astronaut Gus Grissom down the Atlantic Missile Range on his suborbital space flight, July 21, 1961.



Astronaut Gus Grissom is launched into space in Mercury Redstone4 and Liberty Bell 7 on the morning of July 21, 1961, from Cape Canaveral, Florida. Grissom's flight trajectory is a rehash of Shepard's suborbital flight, and his flight profile may be seen in the cachet of this launch cover.



A Spacecraft cover is shown for Gus Grissom's launch date and with a Patrick Air Force Base machine cancellation. Only 50 of these covers are made by cachet makers, Joe Fitzpatrick and Carl Swanson. This is one of the most difficult Spacecraft covers to find due to the small number made. Astronaut Grissom's flight in Mercury Redstone-4 is a replay of Alan Shepard's suborbital flight with only a few mission changes: More time for astronaut control of his spacecraft and more time to perform key mission tasks. During this mission, Grissom's spacecraft performs well, a new communications system is tested, flight vibration problems with MR-4 shingles are improved, a new spacecraft window is tested, and the astronaut's environmental system functions well.



Recovery of Astronaut Gus Grissom by the Crew of USMC Helo HUS-1, photo courtesy of NASA.

Upon splashdown, the recovery helo is not able to retrieve Liberty Bell 7, as it fills with seawater and begins to sink. Astronaut Grissom is finally clear of it, though. Then he notices his spacesuit is filling with water through the suit's neck dam, and he fears he will be weighted down and will also sink! After being thrown a recovery harness by the helo crew, Grissom grabs it, quickly puts it on, although backwards, and is quickly hoisted into the recovery helo. He is finally safe!<sup>109</sup>

Even with the real drama of his spacecraft sinking and his dramatic emergency recovery, Astronaut Gus Grissom's flight is successful and proves that additional Mercury Redstone suborbital flights are no longer needed. At the time of his mission, the Mercury Redstone6 flight had already been cancelled and now the planned Mercury Redstone5 flight is also cancelled.<sup>110</sup>

<sup>109</sup> Ibid., pg. 341.

<sup>110</sup> Ibid., pg. 377.



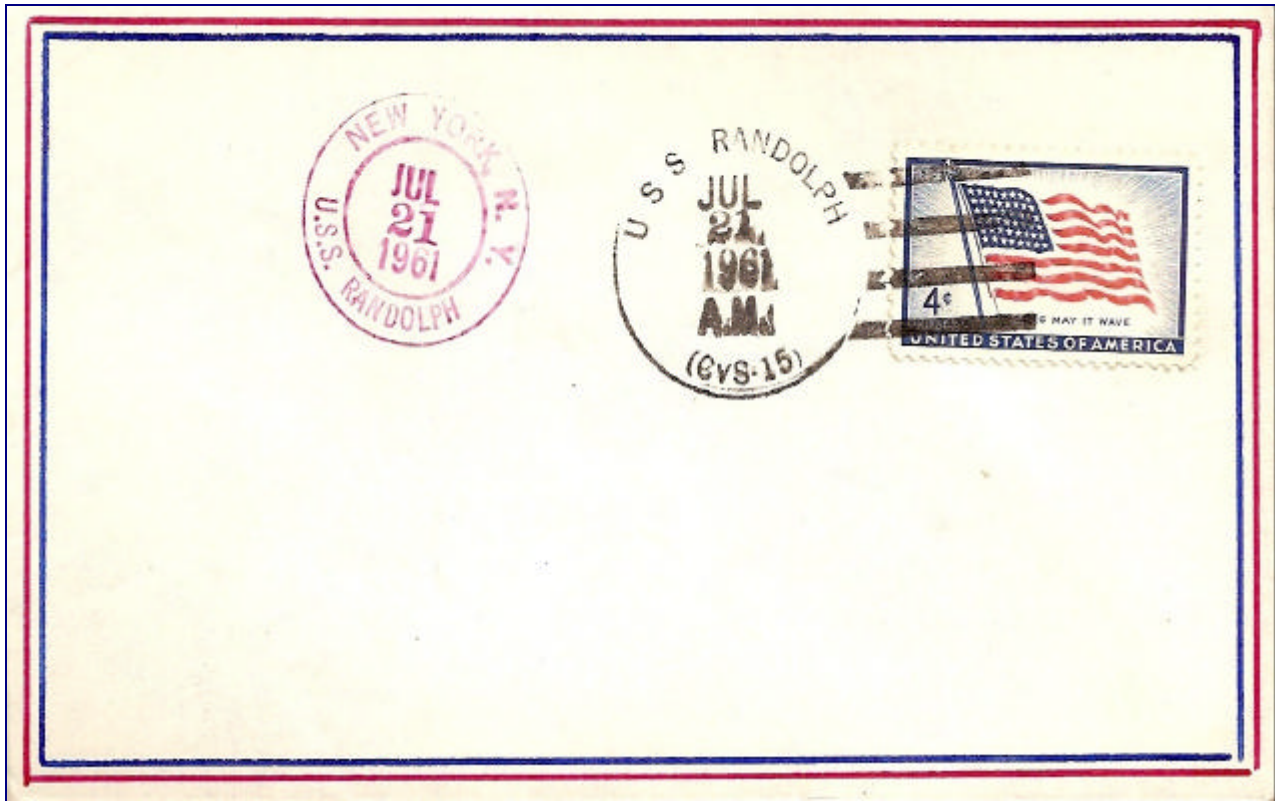


A primary recovery ship cover from USS Randolph, CVS-15, with the ship's **name over the date** is pictured above. Recovery helo pilot, Captain P. P. Upschulte, USMC, has written on the cover, "Capt. Grissom was lifted from the water via aircraft hoist and rescue sling." Captain Upschulte, rescues Grissom from his sinking spacecraft, Liberty Bell 7, and lands him safely on USS Randolph.



A Soggy but Safe Gus Grissom Lands on USS Randolph, photo courtesy of NASA.

Astronaut Grissom's post flight, real world spacecraft hatch emergency prompts NASA engineers to modify its astronaut recovery procedure to prevent Grissom's problem from reoccurring. Gus Grissom's successful mission completes Project Mercury manned suborbital flights using the Mercury Redstone launch vehicle. NASA determines that the next manned Project Mercury space flight with Astronaut John Glenn will be an orbital flight.<sup>111</sup>



*A crew member made the USS Randolph cover pictured above for Astronaut Grissom's recovery. The cover has the regular **name over date** hand cancel but also has a difficult, **red double ring, U.S.S. Randolph, registered mail cancellation** for the ship's recovery date of July 21, 1961.*

Grissom's actions on splashdown are proven as not causing Liberty Bell 7 to sink as is determined by the recovery of his spacecraft, on July 20, 1999, by Curt Newport and the Salvage Recovery Ship "Ocean Project," 38 years later after loss of the spacecraft. The Ocean Project salvage crew locates and recovers Grissom's spacecraft from a depth of 15,000 feet of water, 90 miles northeast of Grand Bahama Island and transports it to Cape Canaveral for offloading.<sup>112</sup>

<sup>111</sup> Ibid.

<sup>112</sup> CNN web site; "Liberty Bell 7 capsule raised from ocean floor," <http://www.cnn.com/TECH/space/9907/20/grissom.capsule.01/>.





USS Randolph at Sea, photo courtesy of the U. S. Navy.



A primary recovery ship cover from the USS Randolph with the ship's name in the lower part of the cancellation hub is shown. The cover is mailed to New York upon the recovery of Gus Grissom. This cover with the name **under the date** is extremely difficult to find. The cover also has a USS Randolph Task Group Alfa cachet for the operational designation of the carrier and accompanying ships. See the photo at the end of this chapter to view the composition of ships, units and aircraft in Task Group Alfa.

USS Randolph is the flagship for the Navy's Task Group Alfa and is the primary recovery ship for the recovery of Astronaut Gus Grissom, July 21, 1961, approximately 90 miles northeast of Grand Bahama Island. Gus Grissom's spacecraft, however, sinks when its hatch is blown out upon splashdown.

Primary Recovery Ship for Gus Grissom's Flight in Liberty Bell 7			
Ship, Hull Number	Difficulty / Value	Type	Comment
USS Randolph, CVS-15, <b>ship's name on top.</b>	Very Difficult / High	PRS	<b>Covers exist, July 21, 1961.</b>
USS Randolph, CVS-15, <b>name on bottom.</b>	Extremely Difficult / High	PRS	<b>Covers exist, July 21, 1961.</b>
USS Randolph, CVS-15, with registered mail cancel (with a <b>red double ring cancellation</b> ).	Extremely Difficult / High	PRS	<b>Covers exist, July 21, 1961.</b>
USS Randolph, CVS-15, ship's name on top (Suspect cover).*	Nominal*	Suspect*	Suspect PRS cover is dated July 21, 1961.*

Note: There are two hand cancellation varieties for USS Randolph as seen in the table above.

\* Note: A suspect primary recovery ship cover exists for USS Randolph, example not available.



Secondary recovery ship USS Lowry, DD-770, dispatches a cover for the recovery of Grissom on his recovery date. Only two secondary recovery ships are known to post covers for Grissom's recovery.

## Astronaut Gus Grissom's Flight in Liberty Bell 7, Task Group Alfa, U. S. Atlantic Fleet

Secondary Recovery Ships and Tracking Ships for Gus Grissom's Flight			
Ship, Hull Number	Difficulty / Value	Type	Comment
USS Cony, DD-508	Extremely Difficult / High	SRS	None known.
USS Conway, DD-507	Rare/ High	SRS	<b>Covers exist, July 21, 1961.</b>
USS Stormes, DD-780	Extremely Difficult / High	SRS	None known.
USS Lowry, DD-770	Rare / High	SRS	<b>Covers exist, July 21, 1961.</b>
USS Alacrity, MSO-520	Extremely Difficult / High	SRS	None known.
USS Exploit, MSO-440	Extremely Difficult / High	SRS	None known.
USS Recovery, ARS-41	Extremely Difficult / High	SRS	None known.
USNS Coastal Sentry, T-AGM 15	Extremely Difficult / High	TS	None known.
USAF Rose Knot, T-AGM 14,	Extremely Difficult / High	TS	None known.

Note: Except for USS Conway, DD-507, and USS Lowry, DD-770, cancel covers for Gus Grissom's flight in Liberty Bell 7. There are no other secondary recovery ship (SRS) covers or tracking ship (TS) covers for Grissom's suborbital flight.





*After a lapse of 38 years, the Salvage Ship “Ocean Project” locates Grissom’s spacecraft on the ocean floor 90 miles northeast of Grand Bahama Island.<sup>113</sup> The Liberty Bell 7 cover pictured closes the chapter on Grissom’s flight. As shown, the cover documents the recovery of Gus Grissom’s capsule and its return to Cape Canaveral, Florida, on July 21, 1999. However, no salvage recovery ship covers are known to exist for the Salvage Ship “Ocean Project.”*

### Astronaut Gus Grissom’s Flight in Liberty Bell 7, Additional Mission Covers

Related Covers	Difficulty / Value	Type	Comment
Recovery of Liberty Bell 7 Spacecraft, brought to Cape Canaveral, Florida	Difficult / Medium	Event Cover	<b>Covers exist, July 21, 1999, Cape Canaveral, Florida.</b>
Salvage Ship “Ocean Project”		PRS	None known.

<sup>113</sup> CNN web site, “Liberty Bell 7 Capsule Raised from Ocean Floor,” as cited, <http://www.cnn.com/TECH/space/9907/20/grissom.capsule.01/>.





Task Force Alfa with USS Randolph and Other Units at Sea, photo courtesy of the U. S. Navy.

Task Group Alfa of the U. S. Atlantic Fleet is shown with flagship USS Randolph, CVS-15, search aircraft, helicopters, destroyers, and Navy support ships for its operations.



Salvage Expedition Leader, Curt Newport on the deck of the Salvage Ship "Ocean Project" which recovers Grissom's space capsule, Liberty Bell 7, 38 years after Grissom splashes down in the Atlantic Ocean, 90 miles from Grand Bahama Island. The two yellow remotely operated vehicles (ROVs) are used to locate Liberty Bell 7 and assist in recovering Grissom's spacecraft. The photo shown is courtesy of CNN and may be seen at web site: <http://www.cnn.com/TECH/space/9904/17/space.mercury/index.html>.



Gus Grissom with Suit Technician, Joe Schmidt, photo courtesy of NASA.