



THE VOICE OF AMERICA

Historic Programs in American Space Exploration

Adapted in Booklet and Audio CDROM Format

by



National Aeronautics

and

Space Administration

Johnson Space Center

Houston, Texas

Space Educators' Handbook Project
Automation, Robotics, & Simulation Division
For Information: Jerry Woodfill (281-483-6331)

Project Mercury: Soviet Successes Push U.S. to Build a Space Program From the Ground Up

Marilyn Christiano and Frank Beardsley
18 July 2006

VOICE ONE:

Explorations-- a program in Special English by the Voice of America.

(SOUND: Countdown and launch)



Project Mercury astronauts

That announcement was made May fifth, nineteen sixty-one. It was the first manned flight of project Mercury.

Today, Tony Riggs and Larry West tell about the beginning of the United States space program that carried humans into space.

VOICE TWO:

The United States entered the Space Age in nineteen forty-five, at the end of World War Two. German rocket scientists, with the support of the German government, had spent fifteen years developing rockets as weapons. Near the end of the war, Germany began firing huge rocket bombs at Britain.

Called V2 rockets, the German weapons carried a ton of explosives three hundred twenty kilometers. They flew as high as eighty kilometers.

When the war ended, American forces found the parts for about one hundred V2 rockets. They brought the German rockets to America and launched sixty-six of them.

VOICE ONE:

The Army opened the V2 launch program to American scientists at several universities. Civilian scientists used the V2 rockets to study the Earth's atmosphere. They gathered much new information and learned much about designing instruments for scientific rockets and satellites.

Many of Germany's top rocket scientists came to the United States after the war. They worked with American scientists and engineers to develop and test new rockets for military and scientific use. In nineteen fifty-six, the United States launched a Jupiter military rocket that flew more than five thousand kilometers.

VOICE TWO:

Military officials immediately offered to use the Jupiter to put a scientific satellite into orbit around the Earth. But the American government said no. Officials decided not to mix military and civilian rocket programs. The United States said it would not launch a scientific satellite until a non-military rocket -- the Vanguard -- could be completed to carry it into space.

Navy scientists were building the Vanguard for scientific purposes. They planned to launch it in nineteen fifty-eight.

The twenty-two meter long rocket would put a little scientific satellite into orbit as one of the events of the International Geophysical Year. The satellite itself would weigh less than two kilograms. But it would contain many tiny electronic instruments for scientific research.

VOICE ONE:

Soviet scientists also were working on rockets and satellites.

In nineteen fifty-seven, a Soviet military rocket carried a small satellite into Earth orbit. The eighty-three kilogram satellite, called Sputnik, had two radios that sent signals as it circled the

world. One month later, a larger Sputnik was launched with a dog inside. The dog survived the launch. But there was no way to return it to Earth. So it died in space.

A few months later, the Soviet Union put a one thousand three hundred sixty kilogram satellite into space.

VOICE TWO:

The Soviet successes with its Sputnik satellites caused the United States to change its space plans. Officials decided to launch the Vanguard as soon as possible.

The attempt was made on December sixth, soon after the first two Sputnik launches. The attempt failed. The rocket exploded during the launch. Less than two months later, however, the United States put its first satellite into orbit.

The rocket was an Army Jupiter. The satellite was Explorer One. It weighed only fourteen kilograms. But it carried a great many electronic instruments for scientific research.

The instruments reported much new information about conditions in space. The most important was the discovery of a belt of radiation around the Earth. It was what we now call the Van Allen Belt.

VOICE ONE:

Support was growing, in Congress and among scientists, for a United States civilian space agency. Soon, Congress passed a bill creating NASA -- the National Aeronautics and Space Administration. President Eisenhower signed the bill into law.

Its job: the scientific exploration of space. Its major goal: sending the first Americans into space.

VOICE TWO:

The new space agency was given a lot of money and thousands of engineers and technicians from military and civilian agencies.

Within three months, the man-in-space program had a name: Project Mercury. The name came from the ancient Greeks. Mercury was the speedy messenger of the Greek gods.

Much work had to be done before Project Mercury could put an American astronaut into space. Dependable rockets needed to be built and tested. A spacecraft had to be designed and built. A worldwide radio system was needed to communicate with orbiting astronauts. And astronauts had to be chosen and trained.

VOICE ONE:

To save time, NASA decided to work on all parts of the program at the same time. It placed orders for four different kinds of military rockets for Mercury flights. It chose the McDonnell Aircraft Company to design and build the Mercury spacecraft. And it began to look for men who would be astronauts.

NASA said its astronaut candidates had to be between twenty-five and forty years old, and in excellent health. They could be no taller than one hundred eighty centimeters. Candidates had to be highly intelligent, with an education in science or engineering.

NASA also said the first astronauts had to be military pilots with experience in test flying airplanes. Test pilots already were trained to make quick, correct decisions in dangerous situations.

VOICE TWO:

One observer said in a joking way that the space agency was just looking for a group of "normal, everyday supermen." But it was not a joke. NASA found seven normal, everyday supermen in a group of five hundred candidates.

On April seventh, nineteen fifty-nine, the space agency introduced the first American astronauts. They were Scott Carpenter, Gordon Cooper, John Glenn, Virgil Grissom, Walter Schirra, Alan Shepard and Donald Slayton.

All were married and had children. All were from small towns or cities. All were about the same height, weight and age. And all were experienced military test pilots.

VOICE ONE:

Each of the new astronauts, however, brought his own special knowledge and skills to the Mercury project.

Navy pilot Scott Carpenter, for example, was well trained in communications and navigation. So he helped with Mercury's communications and navigation systems. Walter Schirra, another Navy flier, was an expert on the pressure suits worn by navy divers. He helped design the space suits that would protect the Mercury astronauts in space.

VOICE TWO:

Air Force pilot Gordon Cooper became an expert on the Redstone Rocket that would launch Mercury astronauts on short training flights. Donald Slayton, another Air Force flier, worked on the long-range Atlas Rocket. Marine John Glenn was an expert on airplane instruments. So he helped design easy-to-use instruments for the Mercury spacecraft.

Navy pilot Alan Shepard helped plan Mercury's worldwide communication system. And Virgil Grissom, of the Air Force, worked on Mercury's electrical systems.

VOICE ONE:

NASA made its first unmanned test flight of the Mercury spacecraft nine months after the project started. The launch was made from the space center at Cape Canaveral, Florida. The flight tested the heat shield. The shield protected the spacecraft from the great heat produced when it returned through the Earth's atmosphere.

Many other unmanned test flights followed in the next two years.

The final test flight was made at the end of January, nineteen sixty-one. It carried a chimpanzee named Ham on a seven hundred kilometer flight over the Atlantic Ocean. Several problems developed. But Ham survived the launch and the landing in the ocean. However, he never wanted to get close to a space capsule again.

VOICE TWO:

Space officials announced that astronaut Alan Shepard would become the first American in space. He would be launched early in May, nineteen sixty-one, on a short, fifteen minute flight. That will be our story next week.

(MUSIC)

VOICE ONE:

You have been listening to Explorations-- a program in Special English by the Voice of America. It was written by Marilyn Rice Christiano and Frank Beardsley. Your narrators were Tony Riggs and Larry West. I'm Shirley Griffith. Listen again next week to the second part of the story of the Mercury program that took the first American astronauts into space.

'Light This Candle': Alan Shepard Is Launched Into Space in 1961

Written by Marilyn Christiano and Frank Beardsley
25 July 2006

VOICE ONE:

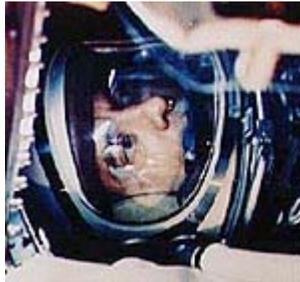
This is Steve Ember.

VOICE TWO:

And this is Shirley Griffith with the VOA Special English program, Explorations. Today we finish the story of the first American program to send a person into space. It was called Project Mercury.

(MUSIC)

VOICE ONE:



**Alan Shepard in Freedom 7
before launch**

The American space agency opened for business October first, nineteen fifty-eight. NASA's most important job was to send an American into space and return him safely to Earth. Project Mercury was the plan for doing this. It would use one of several dependable military rockets to launch a small, one-man spacecraft. The space vehicle would return to Earth and land in the ocean.

Astronauts would be chosen for the program from the best military test pilots who had education in science or engineering.

The idea was simple. But making it happen was not a simple job. Thousands of scientists, engineers, technicians and other workers were needed. And money was needed -- thousands of millions of dollars.

VOICE TWO:

Congress approved the money. NASA organized the program. The McDonnell Company designed and built the spacecraft. The Army and Air Force built the Redstone, Jupiter and Atlas rockets. NASA announced the seven astronauts it had chosen on April ninth, nineteen fifty-nine. They immediately began training for space flight.

No time was wasted. The first test flights began later that year. Those test flights did not carry astronauts. Men would fly the Mercury spacecraft only after it was proved safe.

The final test flight was made at the end of January, nineteen sixty-one. A Mercury spacecraft carried a chimpanzee named Ham on a seven hundred kilometer flight over the Atlantic Ocean. There were some problems. But the animal survived the launch and the landing in the ocean.]

VOICE ONE:

Three months later, NASA sent an astronaut into space. He was Navy pilot Alan Shepard. Shepard crawled into his little Mercury spacecraft early on the morning of May fifth. There was almost no room to move inside it. One description said it was like sitting in the driver's seat of a small car, while wearing two heavy raincoats.

Alan Shepard waited in the spacecraft for four hours. The weather caused part of the delay. Clouds would prevent filming of the launch. And some last-minute repairs were made to his radio system. Tired of waiting, he told the ground crew, "Why don't you fellows solve your little problems and light this candle."
"

VOICE TWO:

Finally, they did start the rocket. With a roar, it began to rise slowly from the

launch pad. Its speed increased. Soon, it was out of sight.

Shepard's flight lasted only a few seconds longer than fifteen minutes. But he flew one hundred eighty-seven kilometers high, and four hundred eighty kilometers from the launch pad. He re-entered the atmosphere and slowed the Mercury spacecraft. The first flight ended with a soft splash into the ocean, as planned.



Shepard is launched into space

Shepard reported, "Everything is a-okay. " Within minutes, a helicopter lifted him from the spacecraft and carried him to a waiting ship. The first manned flight of project Mercury was a complete success.

VOICE ONE:

Radio, television and newspaper reporters made it possible for millions of people to share the excitement of the flight. The United States had decided at the very beginning of its space program that all launches would be open to news reporters. Successes and failures would all be reported to the world. Television and news film showed flight preparations and launch. People could hear -- on radio and television -- the talk between the astronaut and the flight controllers.

VOICE TWO:

Ten weeks later, there was another Mercury launch. Astronaut Gus Grissom repeated Shepard's successful short flight. But there was a serious problem after the landing. Grissom almost drowned when the door of the spacecraft opened too soon.

The spacecraft filled with water and sank. Grissom escaped. He had to swim for a few minutes before helicopters rescued him.

VOICE ONE:

The results of the two short flights made space officials believe the Mercury program was ready for its first orbital flight. Again, an animal would fly first.

A chimpanzee named Enos was launched on a three-orbit flight. The flight tested the worldwide communications system that linked the spacecraft to flight controllers at Cape Canaveral. It also tested the effect of weightlessness on living creatures.

A problem developed during the second orbit. One of the small thruster rockets that turned the spacecraft stopped working. Flight controllers decided to bring it down at the end of the second orbit. The landing was perfect. Enos suffered no bad effects.

VOICE TWO:

Now, everything was ready for an astronaut to make an orbital flight. NASA announced that the astronaut would be John Glenn. He would circle the Earth three times during a five-hour Mercury flight.

The launch was planned for January twenty-seventh, nineteen sixty-two. But it was postponed for almost a month because of weather and mechanical problems. Finally, on February twentieth, John Glenn climbed into his tiny spacecraft on top of the huge Atlas rocket.

After several short delays, the final seconds were counted off.

(SOUND: Countdown)

VOICE ONE:

Five minutes later, the spacecraft separated from the Atlas rocket. John Glenn was in orbit – one hundred sixty kilometers above the Earth. His speed was twenty-eight thousand kilometers an hour. Glenn reported that all systems were "go. " Everything was "a-okay" for an orbital flight.

Glenn's flight plan called for him to spend most of the first orbit getting used to the feeling of being weightless. After about an hour of being beyond the pull of Earth's gravity, Glenn reported he felt fine. He said being weightless was not a problem.

Glenn explained later that at times it helped to be free of gravity. He said he was busy taking pictures when he suddenly had to do something else. So he left the camera floating in the air. It stayed there, as if he had laid it on a table!

VOICE TWO:

Near the end of the first orbit, Glenn reported a problem. One of the small rockets of his automatic control system stopped working. This caused the spacecraft to turn to one side. Glenn solved the problem by turning off the automatic system. He took control of the system to correct the movement.

All of the systems on the Mercury spacecraft sent radio signals to flight controllers. The signals, or telemetry, reported on the condition of the systems.

During the second orbit, one of these signals warned that the heat shield might not be locked firmly to the bottom of the spacecraft. This could be a serious problem. The shield protected the spacecraft from burning up from the extreme heat of re-entering the Earth's atmosphere.

Engineers believed the warning signal was wrong and the shield was locked. But they told Glenn not to release rockets connected to the heat shield. The rockets, normally released before returning to Earth, could help keep a loose heat shield in place.

VOICE ONE:

Near the end of his third orbit, Glenn fired other rockets to slow his speed. The spacecraft began to return to Earth. As it re-entered the atmosphere, radio communications stopped. Flight controllers could no longer hear Glenn. Everyone was worried about the heat shield. The radio silence, caused by the heat of re-

entry, lasted for seven minutes. Then the controllers heard the astronaut again.

Glenn reported that he was okay. The heat shield had been locked.

Parachutes lowered the Mercury spacecraft to the ocean surface. Glenn remained inside. A navy ship reached it in seventeen minutes, and lifted it aboard. Glenn opened the door and stepped out.

John Glenn got a hero's welcome when he returned to Cape Canaveral. President John Kennedy flew to Florida and presented a special award to the astronaut. Glenn became famous. He later was elected to the United States Senate from the state of Ohio. And in nineteen ninety-eight, at age seventy-seven, he returned to space in an historic flight.

VOICE TWO:

Three more flights were made in Mercury spacecraft. The last one, by astronaut Gordon Cooper, circled the Earth twenty-one times. It lasted thirty-four hours.

Cooper spent much of the time doing medical checks and taking pictures. His work cleared the way for project Gemini.

Gemini was the next step toward President Kennedy's goal of landing a man on the moon by the end of the nineteen sixties. Project Mercury astronauts made the goal seem possible.
(MUSIC)

VOICE ONE:

This Special English program was written by Marilyn Christiano and Frank Beardsley. This is Steve Ember.

VOICE TWO:

And this is Shirley Griffith. Listen again next week for another Explorations program on the Voice of America.

'The Greatest Experience': Ed White and America's First Spacewalk

Marilyn Christiano
01 August 2006

EXPLORATIONS -- a program in Special English by the Voice of America.

(MUSIC)

Today, Harry Monroe and Tony Riggs report about America's second manned space program, Gemini. Two astronauts flew on each flight. Gemini's purpose was to bring the United States closer to its goal of landing astronauts on the moon.

(MUSIC)

VOICE ONE:

The astronauts of America's first manned program, Project Mercury, made six successful flights. They proved that people could survive the hostile environment of space.



Ed White on June 3, 1965

In nineteen sixty-five America's space agency, NASA, was ready to begin its second manned program. NASA called it Gemini. The program was named for the two stars Castor and Pollux in the star group Gemini. The Gemini program would send two astronauts at a time into space.

Gemini would test the men's ability to live and work in space.

Gemini, it was hoped, would move America closer to its goal of landing astronauts on the moon.

VOICE TWO:

The first Gemini spacecraft would carry astronauts Virgil Grissom and John Young. Its Titan rocket could lift three times as much weight into space as the Atlas rocket used for the Mercury flights. The launch took place without a problem on March twenty-third, nineteen sixty-five.

Grissom and Young orbited the Earth only three times. But they

did something that the Mercury astronauts had not been able to do. They changed their orbit while in space. The Gemini astronauts were developing the control that would be needed for a trip to the moon.



Gemini 3 lifts off

Less than two months later, James McDivitt and Ed White went into space on the second Gemini flight. Their flight included several experiments. But one seemed almost unbelievable -- a space walk.

Ed White would leave the protection of the spacecraft and move out into the unknown emptiness of space.

VOICE ONE:

When it was time for him to leave the spacecraft, this is what the world heard: "Roger, Flight, we're GO." Those were the words from the flight director on the ground.

Then a voice came down from space. "He is ready to leave right now," called McDivitt. The astronauts had removed all air pressure from the spacecraft. Only their special space clothing would provide the air pressure they needed to stay alive.

VOICE TWO:

Slowly, Ed White moved out the open door. He was tied to the spacecraft by a long rope. He floated out and away from the spacecraft. Millions of people listened as he said, "This is the greatest experience. I am looking down right now. And it looks like we are coming up on the coast of California."

At space agency headquarters, doctors studied his medical condition as the information was being sent back to Earth. They said that being outside the spacecraft did not seem to affect him.

VOICE ONE:

It was time for Ed White to end his space walk. James McDivitt had to beg him to return. White was having a wonderful time. He wanted to stay out longer. Finally, he climbed back inside. He had floated around in the emptiness of space for twenty-one minutes.

Then a problem developed. The door of the spacecraft refused to shut tightly. The astronauts' clothing protected them during the flight. But what would happen during re-entry? James McDivitt had to try to repair the door.

VOICE TWO:

Scientists always knew it would not be easy for humans to work in the weightlessness of space. Each time an astronaut puts pressure in one direction, their body moves in the opposite direction. There is no gravity to hold them in place.

NASA scientists had tried to solve the problem by designing new tools for use in space. McDivitt tried one of the new tools. It worked. He was able to repair the broken door so it shut tightly.

VOICE ONE:

Solving this problem, however, created a new one. The astronauts had planned to re-open the door during their four-day flight. They had planned to throw away materials they no longer

needed, including uneaten food. But now they decided it would not be wise to re-open the door.

Soon, the inside of the spacecraft began to fill up with all kinds of junk. McDivitt and White had to learn to sleep and work as things floated around their heads.

VOICE TWO:

On the sixty-second orbit, the astronauts prepared to return to Earth. They fired the spacecraft's control rockets. The spacecraft slowed and began to re-enter the atmosphere. It landed safely in the Atlantic Ocean.

Rescue helicopters reached McDivitt and White within seven minutes of landing. The two American astronauts were in excellent condition. They had made the first space walk. And they had proved that people could both live and work in space.

VOICE ONE:

The next Gemini launch was planned for just two months later. Gordon Cooper and Charles Conrad were to spend a record eight days in space.

Soon after the launch, Cooper and Conrad noted a problem that almost ended their flight early. They discovered a drop in pressure in the fuel cells that supplied electricity. These fuel cells powered the communications and computer systems. And they were very important to the environmental control systems in the spacecraft.

VOICE TWO:

Gemini's flight director decided to reduce the use of power on the spacecraft, instead of ending the flight early. Cooper and Conrad turned off the radar, radio, computer and even some environmental control systems. The spacecraft floated silently through space.

Suddenly the power began to increase. The astronauts turned the systems back on. By the third day in orbit, all was normal again.

Then another problem developed with the same fuel cells. The cells created electricity by mixing hydrogen with oxygen. The process also produced some water. But the fuel cells were producing too much water. Containers that held the water were filling up too fast.

NASA was worried that the extra water could destroy the power supply needed for the spacecraft's return to Earth. So, Cooper and Conrad again turned off most of the power in the spacecraft.

VOICE ONE:

Again, the spacecraft floated almost silently above the Earth. Communications were few. Cooper and Conrad could not do any of the planned experiments. But each day, they set another record for surviving in space.

Eight days after their launch, Cooper and Conrad fired the control rockets and re-entered the atmosphere. They had circled the Earth one hundred twenty times. They had seen one hundred twenty sunrises and sunsets. They had traveled more than five million kilometers. They had proved that people could live and work in space for the time it would take to get to the moon and back.

VOICE TWO:

Now, it was time for Gemini Six to make its mark in history.

Walter Schirra and Thomas Stafford were the astronauts. Schirra had been the pilot on an almost perfect Mercury flight three years before. Stafford was from the second group of American astronauts.

They were to make the first effort at a space chase. The two men would chase another object orbiting Earth, a satellite. They would try to move their spacecraft as close as possible to the

satellite. This move had to be successful before any moon landing could be attempted.

But things did not go as planned. The satellite that Schirra and Stafford were supposed to chase apparently exploded after it was launched. NASA postponed the flight of Gemini Six.

VOICE ONE:

Space agency officials had to find the reason for the failure of the target satellite. That would take valuable time. So, they decided to launch the next flight, Gemini Seven, instead of waiting.

The astronauts for that flight were Frank Borman and James Lovell. They planned to set another record -- fourteen days in space. It would be the longest, most difficult flight yet.

Then NASA considered another plan.

There was nothing wrong with the Gemini Six spacecraft. So, NASA announced that Gemini Seven would lift off on December third, nineteen sixty-five. Then, if everything else was ready, Gemini Six would be launched a few days later. It would attempt to meet in space with the orbiting Gemini Seven.

VOICE TWO:

NASA quickly added a warning to its plan. There was less than a fifty percent chance of success. But Americans were hopeful. If the plan succeeded, it would be the greatest space act since manned flights began.

We will continue our story of America's Gemini space program next week.

(MUSIC)

ANNOUNCER:

This VOA Special English program, EXPLORATIONS, was written by Marilyn Rice Christiano. Your narrators were Tony Riggs and Harry Monroe. This is Shirley Griffith.

1965: Two Gemini Craft Meet in Space, Another Step Toward Moon

08 August 2006

EXPLORATIONS -- a program in Special English by the Voice of America.

(MUSIC)

Today, Shirley Griffith and Tony Riggs complete a report about America's second manned space program, Gemini. Its purpose was to bring the United States closer to its goal of landing astronauts on the moon.

VOICE ONE:

To explore the surface of the moon, astronauts must be able to survive outside the protection of their spacecraft. So an astronaut on the flight of Gemini Four, Ed White, took that first frightening step into the unknown. For more than twenty minutes, he floated outside his spacecraft in the emptiness of space.

Astronauts on the next flight, Gemini Five, suffered a number of technical problems. But they were able to survive in space for eight days.



**Gemini 7 as seen from
Gemini 6**

Then it was time to launch Gemini Six. Its crew would attempt a move that would be necessary for any landing on the moon. The astronauts would chase another object orbiting Earth. And they would move their spacecraft as close as possible to it.

However, the target -- a satellite -- apparently exploded after it was launched. So America's space agency, NASA, said

there was no reason to send up Gemini Six. NASA decided to move ahead with the next flight, Gemini Seven.

VOICE TWO:

Then NASA considered yet another plan. It would launch Gemini Seven. And, if everything was ready, it would launch Gemini Six a few days later. Gemini Six would chase, and get close to, Gemini Seven instead of a satellite.

Astronauts Frank Borman and James Lovell were the crew of Gemini Seven. They would make the longest, most difficult flight ever. They would spend fourteen days in their tiny spacecraft.

VOICE ONE:

Gemini Seven lifted off from Cape Canaveral, Florida, on Friday, December third, nineteen sixty-five. Workers at the space center examined the launch area. There appeared to be no major damage. The workers quickly moved another huge Titan rocket into place. On top of the rocket sat the Gemini Six spacecraft.

NASA announced that Gemini Six would be launched in the early morning of Sunday, December twelfth. The timing would put the two spacecraft in the correct orbit to meet in space.

Astronauts Walter Schirra and Thomas Stafford prepared for their flight. They had waited once in a spacecraft that never left the ground. Their first launch had been cancelled because the target satellite exploded. This time, they hoped, things would be different.

VOICE TWO:

On that Sunday morning, Schirra and Stafford were again in their tiny Gemini Six spacecraft atop the Titan rocket. Borman and Lovell, in Gemini Seven, speeded across the United States. The countdown at Cape Canaveral reached zero as Gemini Seven passed overhead.

Frank Borman's disappointed words from space told the story. "I saw ignition...and then shutdown." For some reason, the Titan rocket engines had fired as planned. But then they shut themselves off one second later.

For several tense minutes, the astronauts of Gemini Six were sitting on top of a highly explosive mass of rocket fuel. Schirra waited with his hand on a special device. If he pulled it, he and Stafford would get away safely. If he did not pull it, and the rocket exploded, they would be killed.

With nerves of steel, the astronauts waited. The rocket did not explode.

VOICE ONE:

Once again, Schirra and Stafford climbed out of Gemini Six. Borman and Lovell continued to circle the Earth.

Soon, the public heard the report. A tiny part at the bottom of the rocket had fallen out too early. That tiny part sent a signal to computers that the launch had taken place. The computers immediately shut off the rocket engines.

Space agency officials decided to try one more time. They set the launch for three days later. It would be the last chance for Gemini Six to attempt to meet with Gemini Seven in space. If this attempt failed, the United States would suffer a serious delay in its goal to land astronauts on the moon.

Borman and Lovell continued to circle the Earth, day after day, as workers hurried to meet the new launch date. They were almost three hundred kilometers high. They were moving at twenty-eight thousand kilometers an hour.

VOICE TWO:

December fifteenth, nineteen sixty-five. This was it. What could be an impossible effort in the history of space flight was ready to lift off on its final chance for success.

For the third time, Walter Schirra and Thomas Stafford put on their space clothing. They took their places in the Gemini Six spacecraft. The countdown reached zero just as Frank Borman and James Lovell, in Gemini Seven, passed overhead.

This time, with a thundering roar, Gemini Six rose into the air. As it headed into space, a radio announcer said, "This whole nation pushed that one up."

VOICE ONE:

Now there were four Americans in space. Gemini Six followed Gemini Seven, but in a lower orbit that moved the two spacecraft closer together. Flight controllers on the ground held their breath. Success was near. Yet failure was still very possible.

The spacecraft were almost two thousand kilometers apart. They needed to get within six hundred meters of each other. Only then would space agency officials consider the project a complete success.

VOICE TWO:

Time passed quickly as Schirra moved Gemini Six closer and closer to its target. Gemini Six was now eight kilometers behind, and twenty-four kilometers below, Gemini Seven. Schirra fired a rocket exactly long enough to put his spacecraft in the same orbit. Then radar on each spacecraft noted the other spacecraft.

Happily, Schirra sent a radio message to Gemini Seven. "We'll be up shortly," he said.

A few minutes later, the astronauts were able to see each others' spacecraft. Success seemed within reach. Only six-and-one-half kilometers separated them. The two spacecraft continued to float together, far out in space.

VOICE ONE:

They moved closer and closer together as they flew across the Indian Ocean. It was about six hours since the launch of Gemini Six. For a while, there was no communication from space to Earth. The spacecraft were too far from any ground station to send clear messages.

Finally, the voice of Thomas Stafford came through the silence of space. "We are thirty-six meters apart and sitting."

Thirty-six meters! That was far better than the six hundred meters space agency officials would have considered a complete success.

In fact, the two spacecraft almost touched each other before they separated. Space agency officials now knew that it was possible to join two orbiting spacecraft. The crew on Gemini Six had made the operation seem easy.

VOICE TWO:

As the American astronauts continued to float through space, they inspected each other and each other's spacecraft. Frank Borman noted happily that after twelve lonely days in space, he and James Lovell finally had company for one night!

The next day, Schirra and Stafford completed their flight. Gemini Six landed in the Atlantic Ocean within twenty kilometers of the rescue ship. Gemini Seven continued to speed on.

VOICE ONE:

On December eighteenth, ground controllers asked Borman and Lovell if they were ready to come home. "Ready! Ready!" the astronauts answered. Gemini Seven landed as perfectly as Gemini Six.

Astronauts Borman and Lovell had been in space more than three hundred thirty hours. They had traveled almost eight million five hundred thousand kilometers.

VOICE TWO:

The flights of Gemini Six and Gemini Seven greatly increased hope that Americans soon would be able to land on the moon. Schirra and Stafford proved that spaceships could link up while in orbit.

Borman and Lovell proved that humans could survive in space for the time needed to get to the moon and back. The distance to the moon suddenly seemed shorter.

VOICE ONE:

Five more Gemini flights followed. Other spacecraft joined with other targets in space and landed exactly where planned. Astronauts worked for longer periods of time in the hostile environment of space.

The Gemini program had reached all its goals. Now, the United States was ready for the next historic jump into space. It would be Project Apollo. Project Apollo would land men on the moon.

(MUSIC)

ANNOUNCER:

This Special English program was written by Marilyn Rice Christiano. Your narrators were Shirley Griffith and Tony Riggs. I'm Doug Johnson. Listen again next week for another EXPLORATIONS program on the Voice of America.

Spaceflight History: Excitement and Tragedy in Preparing for Moon

15 August 2006

EXPLORATIONS -- a program in Special English by the Voice of America.

The nineteen sixties were exciting times in space exploration. Today, Kay Gallant and Harry Monroe look back at the first flights of the Apollo program designed to land humans on the moon.

(MUSIC)

VOICE ONE:

The decision to go to the moon was made in May nineteen sixty-one.

President John Kennedy set the goal in a speech to Congress and the American people. He said he believed the United States, before the end of the nineteen sixties, should land a man on the moon and return him safely to Earth.

He said no other effort would be so important to the exploration of space. And he said no other effort would be so difficult or cost so much to do.

VOICE TWO:

At the time President Kennedy spoke, the Soviet space program seemed far ahead. The Soviet Union put the first satellite into Earth orbit. A Soviet spacecraft was the first to land instruments on the moon. And a Soviet cosmonaut, Yuri Gagarin, was the first man in space.



Launch of Apollo 7



Alan Shepard

The United States had just sent an astronaut of its own into space for the first time. Alan Shepard made only a fifteen-minute flight in the little one-man Mercury spacecraft. But his flight gave Americans the feeling that the United States could pull ahead of the Soviet Union in the space race.

There was great public support for President Kennedy's moon landing goal. And Congress was ready to spend the thousands of millions of dollars that a moon landing program would cost.

VOICE ONE:

Much happened in the months after America decided to go to the moon.

New space flight centers were built. Designs for launch rockets and spacecraft were agreed on. And a new spaceflight program -- Project Gemini -- was begun. Flights in the two-man Gemini spacecraft tested the men, equipment and methods to be used in the Apollo program to the moon.

Gemini let astronauts learn about the dangers of radiation and the effects of being weightless during long flights. Astronauts learned to move their spacecraft into different orbits and to join with other spacecraft.

VOICE TWO:

While the Gemini program prepared astronauts for Apollo flights, NASA engineers were designing and building the Apollo spacecraft.

It was really two spacecraft. One was a cone-shaped command module. The astronauts would ride to the moon in the command module. And they would return home in it.

The second craft was a moon-landing vehicle. Two astronauts would ride in it from the orbiting command module to the moon's surface. Later, the landing vehicle would carry them back to the command module for the return trip to Earth.

VOICE ONE:

Engineers also were working on a huge new rocket for Apollo. It needed much more power than the rockets used to launch the one-man Mercury and the two-man Gemini flights. The Apollo rocket was called Saturn.

Two Saturn rocket systems were built. One was the Saturn one-B. It did not have enough power to reach the moon. But it could launch Apollo spacecraft on test flights around the Earth. The other was the Saturn five. It would be the one to launch astronauts to the moon.

Saturn one-B rockets launched six unmanned Apollo spacecraft. The test flights showed that all the rocket engines worked successfully. They also showed that the Apollo spacecraft could survive the launch and could re-enter Earth's atmosphere safely.

VOICE TWO:

By the end of nineteen sixty-six, NASA officials considered the Apollo spacecraft ready for test flights by astronauts. Three astronauts were named for the first manned Apollo test flight: Virgil Grissom, Edward White and Roger Chaffee.

Four weeks before the flight, the three men were in the command module at Cape Kennedy, Florida. They were testing equipment for the flight.

Suddenly, fire broke out in the spacecraft. When rescuers got the door open, they found the flames had killed the three astronauts. Grissom, White and Chaffee were the first Americans to die in the space program.

VOICE ONE:

Engineers redesigned and rebuilt the Apollo command module. They designed a new door that could be opened more quickly. They improved the electrical wiring. And they used only materials that would not burn easily.

By November nineteen sixty-seven, the moon launch rocket, Saturn Five, was ready for a test flight. It thundered into space perfectly, pushing an unmanned Apollo spacecraft more than eighteen thousand kilometers up into the atmosphere.

VOICE TWO:

The huge Saturn rocket, as tall as a thirty-six-floor building, was the heaviest thing ever to leave Earth. It weighed more than two million seven hundred thousand kilograms. The noise of its rockets was one of the loudest sounds ever made by humans.

At the end of the test flight, the speed of the Apollo spacecraft was increased to forty thousand kilometers an hour. That was the speed of a spacecraft returning from the moon. The spacecraft re-entered the atmosphere without damage.

Apollo flights five and six tested the moon-landing module and the Saturn Five rocket.

VOICE ONE:



Donn Eisele and Walter Schirra, holding a sign: "Keep those cards and letters coming in, folks!"

Astronauts first flew in the Apollo spacecraft in October nineteen sixty-eight. Apollo Seven astronauts Walter Schirra, Walter Cunningham and Donn Eisele spent eleven days orbiting the Earth. They tested the spacecraft systems. And they broadcast, for the first time, live television pictures of men in orbit.

Everything worked perfectly.

VOICE TWO:

The successful flight of Apollo Seven led NASA officials to send the next flight, Apollo Eight, to the moon. The launch was early on the morning of December twenty-first, nineteen sixty-eight. Millions of people were watching on television.

Astronauts Frank Borman, James Lovell and William Anders were in the spacecraft at the top of the Saturn Five rocket. NASA officials counted down the seconds: five, four, three, two, one. The mighty engines fired. Slowly the giant rocket lifted off the Earth.

VOICE ONE:

Three hours later, NASA officials told the crew that everything was "OK" for what they called "TLI" or "trans-lunar injection." This meant the Apollo Eight astronauts could fire the rocket that would send them from Earth orbit toward the moon. Less than three days later, Apollo Eight was orbiting the moon.

The American spacecraft was just one hundred ten kilometers from its surface.

On December twenty-fourth, the astronauts made a television broadcast to Earth. They described the moon's surface as a strange, gray, lonely place. And, as they talked, people on Earth could see pictures of the moon on their television sets.

Apollo Eight returned to Earth without problems. It landed in the Pacific Ocean near a waiting ship.

VOICE TWO:

Apollo Eight showed that humans could travel to the moon and return safely. The next step was to test the lunar landing craft. That was the job of the astronauts of Apollo Nine: James McDivitt, David Scott and Russell Schweickart. They spent ten days in Earth orbit during March nineteen sixty-nine.

During the flight, they separated the lunar lander from the command module and flew it for eight hours. They tested all its systems. Then, they joined the two spacecraft together again, just as astronauts would do after a moon landing.

Engineers decided that after Apollo Nine, one more test flight was needed. They wanted to test the landing module near the moon. So astronauts Tom Stafford, John Young and Eugene Cernan did that during the flight of Apollo Ten.

VOICE ONE:

They reached the moon in May nineteen sixty-nine. Astronauts Stafford and Cernan entered the landing craft and separated it from the command ship.

Stafford and Cernan flew the lander down to only thirteen kilometers from the moon. They described the moon during a radio and television broadcast. "It is like wet clay," they said. "Like a dry river bed in New Mexico or Arizona. It is a beautiful sight. "

On May twenty-third, the lander rejoined the command module one hundred kilometers above the moon. Apollo Ten started for home. The final testing was done. Apollo was ready to land on the moon.

That will be our story next week.

(MUSIC)

ANNOUNCER: This Special English program was written by Marilyn Rice Christiano. Your narrators were Kay Gallant and Harry Monroe. I'm Shirley Griffith. Listen again next week at this time to EXPLORATIONS on the Voice of America as we continue the story of the Apollo moon landing program.

'That's One Small Step': The Story of the First Humans on the Moon

23 August 2006

EXPLORATIONS -- a program in Special English by the Voice of America.

(SOUND)

A rocket launch countdown. A common sound in the nineteen sixties. But this was not just another launch. It was the beginning of an historic event. It was the countdown for Apollo Eleven -- the space flight that would carry men to the first landing on the moon.

The ground shook at Cape Kennedy, Florida the morning of July sixteenth, nineteen sixty-nine. The huge Saturn Five rocket moved slowly up into the sky. It rose perfectly. Someone on the launch crew spoke the words, "Good luck. And Godspeed. "



Today, Steve Ember and Dick Rael tell the story of the flight of Apollo Eleven.

VOICE ONE:

In the spacecraft at the top of the speeding rocket were three American astronauts whose names soon would be known around the world: Neil Armstrong, Edwin Aldrin and Michael Collins.

Neil Armstrong was the commander of the spacecraft. He was a test pilot. He had flown earlier on one of the two-man Gemini space flights. Armstrong was a calm person, a man who talked very little.

Edwin "Buzz" Aldrin was pilot of the moon lander vehicle. The astronauts gave it the name Eagle. Aldrin had flown on the last of

the Gemini flights. He also was a quiet man, except when he talked about space.

Michael Collins was the pilot of the command module vehicle, Columbia. He also had made a Gemini flight. He would wait in orbit around the moon while Armstrong and Aldrin landed and explored the surface. Collins was very popular and always ready with a smile.

VOICE TWO:

Two-and-one-half minutes after the Apollo Eleven launch, the first-stage rocket separated from the spacecraft. Twelve minutes later, the spacecraft reached orbit. Its speed was twenty-nine thousand kilometers an hour. Its orbit was one hundred sixty-five kilometers above the Earth.

This was the time for the crew to test all the spacecraft systems. Everything worked perfectly. So, the NASA flight director told them they were "go" for the moon. They fired the third-stage rocket. It increased the speed of the spacecraft to forty thousand kilometers an hour. This was fast enough to escape the pull of the Earth's gravity.

Apollo Eleven was on its way to the moon. In seventy-seven hours, if all went well, Apollo Eleven would be there.

VOICE ONE:

Halfway to the moon, the astronauts broadcast a color television program to Earth. The broadcast showed how the astronauts lived in the spacecraft. It showed their instruments, food storage, and details of how they moved and worked without gravity to give them weight. The television broadcast also showed the Earth behind Apollo Eleven. And it showed the moon growing larger in the blackness ahead.

As hours passed, the pull of the moon's gravity grew stronger. Near the moon, the astronauts fired rockets to slow the spacecraft enough to put it into moon orbit.

VOICE TWO:

Apollo Eleven circled the moon while the crew prepared for the landing. Finally, spacecraft commander Armstrong and NASA flight controllers agreed it was time to separate the lander module "Eagle" from the command module "Columbia."

Armstrong and Aldrin moved through the small opening between the two spacecraft. Then they moved Eagle away from Columbia. Armstrong reported, "The Eagle has wings!" The lunar module was ready. Men were about to land on the moon.

On Earth, all activity seemed to stop. President Richard Nixon gave federal government workers the day off to watch the moon landing on television.

Around the world, five hundred million people watched the television report. Countless millions more listened on their radios.

VOICE ONE:

Armstrong and Aldrin fired the lander rocket engine. The firing slowed the spacecraft and sent it down toward the landing place. It was in an area known as the "Sea of Tranquility."

The lunar lander, controlled by a computer, dropped toward the airless surface of the moon. One hundred forty meters from the surface, the astronauts took control of the lander from the computer. They moved Eagle forward, away from a very rocky area that might have caused a difficult landing.

The voices of Aldrin and Armstrong could be heard in short messages. "Forward. . . Forward. . . Good. Forty feet. Kicking up some dust. Big shadow. Drifting to the right a little. Contact light. Okay. Engine stop. "

Armstrong reported, "Tranquility base here. The Eagle has landed!"

VOICE TWO:

NASA's plan had called for the astronauts to test instruments, eat and then rest for four hours before leaving the Eagle. But Armstrong and Aldrin asked to cancel the four-hour sleep period. They wanted to go out onto the moon as soon as they could get ready.

NASA controllers agreed.

It took the astronauts more than three hours to complete the preparations for leaving the lander. It was difficult -- in Eagle's small space -- to get into space suits that would protect them on the moon's surface.

VOICE ONE:



Buzz Aldrin prepares to walk on the moon, in a picture taken by Neil Armstrong

Finally, Armstrong and Aldrin were ready. They opened the door. Armstrong went out first and moved slowly down the ladder. At two hours fifty-six Greenwich Mean Time on July twentieth, nineteen sixty-nine, Neil Armstrong put his foot on the moon.

"That's one small step for man," he said, "One giant leap for mankind."

The world could see the history-making event on television. But the man who was closest to what was happening, Michael Collins, could only listen. He was orbiting the moon in the command module Columbia. It did not have a television receiver.

VOICE TWO:

Armstrong moved carefully away from the Eagle. He left the cold, black shadow of the lander and stepped into the blinding white light of the sun.

On Earth, all was quiet. No sound came from televisions or radios. No one felt able to talk about what was happening.

Armstrong began to describe what he saw. "The surface appears to be very, very fine grain, like a powder. I can kick it loosely with my toes. I can see footprints of my boots in the small, fine particles. No trouble to walk around."

VOICE ONE:

Aldrin appeared on the ladder. Down he came, very slowly.

Soon, both men were busy placing experiments to be left behind on the moon. They collected more than thirty kilograms of rock and soil to take back to Earth. They moved easily and quickly, because the moon's gravity is six times less than Earth's.

Hours passed. Too soon, it was time to return to the Eagle. Armstrong and Aldrin re-entered the lander. They rested for a while. Then they began to prepare to launch the lander for the return flight to the orbiting command module.

VOICE TWO:

Listeners on Earth heard the countdown from Tranquility Base. "Three, two, one. . . first stage engine on ascent. Proceed. Beautiful. Twenty-six. . . thirty-six feet per second up. Very smooth, very quiet ride." Eagle was flying. Man had been on the moon for twenty-one and one-half hours.

Eagle moved into the orbit of the command module. It connected with Columbia. Armstrong and Aldrin rejoined Collins in the command ship. They separated from Eagle and said good-bye to it. The lander had done its job well.

VOICE ONE:

Eight days after it started its voyage to the moon, Apollo Eleven splashed down in the Pacific Ocean. Left behind on the



moon were the footprints of Armstrong and Aldrin, an American flag and scientific equipment. Also left forever on the moon is a sign with these words:

"Here men from the planet Earth first set foot on the Moon --
July, nineteen sixty-nine A.D. We came in peace for all mankind."
"

(MUSIC)

ANNOUNCER:

This Special English program was written by Marilyn Rice Christiano. It was produced by Caty Weaver. Your narrators were Steve Ember and Dick Rael. This is Phoebe Zimmermann. Listen again next week at this time to Explorations on the Voice of America as we continue the story of the Apollo space flight

'Houston, We've Had a Problem Here': The Survival of Apollo 13

29 August 2006

ANNOUNCER:

EXPLORATIONS -- a program in Special English by the Voice of America.

(MUSIC)

American astronauts in Apollo Eleven landed on the moon July twentieth, nineteen sixty-nine. A second landing was made four months later. Both flights were almost perfect. Everything worked as planned. Everyone expected the third moon-landing flight, Apollo Thirteen, would go as well as the first two. But it did not.



Apollo 13's damaged service module, as seen from the command module, after an oxygen tank exploded

Today, Shirley Griffith and Sarah Long tell you the story of Apollo Thirteen -- the flight that almost did not come home.

(MUSIC)

VOICE ONE:

Apollo Thirteen roared into space on Thursday, April eleventh, nineteen seventy. The time was thirteen-thirteen, one-thirteen p.m. local time.

Navy Captain James Lovell was commander of Apollo Thirteen. He had flown on Apollo Eight, the first flight to orbit the moon.

The two other crew members were civilians -- John Swigert and Fred Haise. Apollo Thirteen was their first space flight.

VOICE TWO:

The Apollo Thirteen spacecraft was like the earlier Apollos. It had three major parts. One was the command module. The astronauts would ride to the moon in the command module and then ride back to Earth in it. It was the only part of the spacecraft that could survive the fiery return through the Earth's atmosphere.

The lunar module was the second part. It would carry two of the astronauts to the moon's surface. It would later launch them from the moon to rejoin the command module.

The third part of the Apollo spacecraft was the service module. It had a rocket engine that the astronauts fired to begin circling the moon. They fired it again to break out of moon orbit for the return flight to Earth. The service module carried tanks of oxygen for the flight, and the fuel cells that produced electricity and water the astronauts needed to survive.

VOICE ONE:

There was what seemed to be a minor problem during the ground tests before launch. Two large tanks in the service module held liquid oxygen. The oxygen was the fuel that provided water and electricity for the command module. One of the oxygen tanks failed to empty normally during the ground test. Engineers had to boil off the remaining oxygen by turning on a heater in the tank.

Commander Lovell said later he should have demanded the oxygen tank be replaced. But it seemed to be fixed. So no change was made.

VOICE TWO:

After launch, Apollo Thirteen sailed smoothly through space for two days. Controllers on the ground joked that the flight had gone so well they did not have enough to do.

That changed a few hours later. The first sign of trouble was a tiny burst of light in the western sky over the United States. It looked like a far-away star had exploded.

VOICE ONE:

Near the space center in Houston, Texas, some amateur star-watchers were trying to see the Apollo spacecraft through telescopes. One of the group had fixed a telescope to a television set so that objects seen by the telescope appeared on the television screen.

The spacecraft was too far away to be seen. But suddenly, a bright spot appeared on the television screen. Over the next ten minutes it grew into a white circle.

The observers on the ground had no reason to believe the white spot they saw was made by the spacecraft. They thought it was a problem with the television. So they went home to bed.

VOICE TWO:

It was not a problem with their television. It was a serious problem with Apollo Thirteen.

It happened a few minutes after the three astronauts completed a television broadcast to Earth. The astronauts heard a loud noise. The spacecraft shook. Warning lights came on. Swigert called to Mission Control, "Houston, we've had a problem here."

The number two oxygen tank in the service module had exploded. The liquid oxygen escaped into space. It formed a huge gas ball that expanded rapidly. Sunlight made it glow. Within ten minutes, it was almost eighty kilometers across. Then it slowly disappeared. The cloud was the white spot the observers in Houston had seen on their television.

VOICE ONE:

The loss of one oxygen tank should not have been a major problem. Apollo had two oxygen tanks. So, if one failed, the other could be used. But the astronauts soon learned that the explosion had caused the other oxygen tank to leak.

The astronauts were three hundred twenty thousand kilometers from Earth with little oxygen, electricity and water. Their situation was extremely serious. No one knew if they could get the spacecraft back to Earth, or if they could survive long enough to return.

VOICE TWO:

The astronauts and the flight control center quickly decided that the lunar module could be their lifeboat. It carried oxygen, water, electricity and food for two men for two days on the moon's surface.

But there were three astronauts. And the trip back to Earth would take four days. The men greatly reduced their use of water, food and heat. And they turned off all the electrical devices they could.

Back on Earth, space scientists and engineers worked around the clock to design and test new ideas to help the astronauts survive.

VOICE ONE:

Getting enough good air to breathe became the most serious problem. The carbon dioxide the astronauts breathed out was poisoning the air. The lunar module had a few devices for removing carbon dioxide. But there were not enough to remove all the carbon dioxide they created.

Engineers on the ground designed a way the astronauts could connect air-cleaning devices from the module to the air system in the lunar module. The astronauts made the connector from a plastic bag, cardboard and tape. It worked. Carbon dioxide was no longer a problem.

VOICE TWO:

Now the problem was how to get the astronauts back to Earth as quickly and safely as possible.

They were more than two-thirds of the way to the moon on a flight path that would take them to a moon landing. They needed to change their flight path to take them around the moon and back toward Earth. They had to do this by firing the lunar module rocket engine for just the right amount of time. And they

had to make this move without the equipment in the command module that kept the spacecraft on its flight path.

Five hours after the explosion, flight controllers advised firing the rocket for thirty-five seconds. This sent the spacecraft around the moon instead of down to it. Two hours after Apollo Thirteen went around the moon, the astronauts fired the rocket for five minutes. This speeded up the spacecraft to reach Earth nine hours sooner.

VOICE ONE:

The lunar module was extremely uncomfortable. The astronauts had very little to drink and eat. But the cold was the worst part of the return trip. The temperature inside the lunar module was only a few degrees above freezing. It was too cold for them to sleep much.

They used the electrical power in the lunar module to add electricity to the batteries of the command module. They would need the electrical power for their landing.

VOICE TWO:

The crew moved back to the command module a few hours before landing. They turned on the necessary equipment and broke away from the damaged service module. As the service module moved away, they saw for the first time the damage done

by the exploding oxygen tank. Equipment was hanging from a huge hole in the side of the module.

One hour before landing, Lovell, Swigert and Haise said thanks and goodbye to their lifeboat, the lunar module. They separated from it and sent it flying away from them.

VOICE ONE:

Now, the command module of Apollo Thirteen headed alone toward Earth. It fell through the atmosphere. Its parachutes opened, slowing its fall toward the Pacific Ocean, near Samoa.

Ships and planes were waiting in the landing area. And thousands of millions of people around the world were watching the live television broadcast of the landing. People everywhere cheered as the cameras found the spacecraft floating downward beneath its three parachutes. They watched as it dropped softly into the water.



A helicopter recovers the Apollo 13 crew after splashdown

The Apollo Thirteen astronauts were safely home.

(MUSIC)

ANNOUNCER:



NASA officials celebrate the return of Apollo 13

This Special English program was written by Marilyn Rice Christiano and directed by Paul Thompson. Your narrators were Shirley Griffith and Sarah Long. This is Steve Ember. Join us again next week for another EXPLORATIONS program on the Voice of America when we finish the story of the Apollo moon landing

program.

Special English

Learn American English and Much More

Read Listen Learn

The Voice of America, which first went on the air in 1942, is a multimedia international broadcasting service funded by the U.S. government through the Broadcasting Board of Governors. VOA broadcasts more than 1,000 hours of news, information, educational, and cultural programming every week to an estimated worldwide audience of more than 100 million people.

The enclosed historic space accounts, in printed text and audio rendering, offer an invaluable learning tool for educators and students. The disciplines of reading, science, and history will benefit from this excellent educational resource. Students can perform the readings for the class, or the class can listen to the audio VOA performances while reading the printed text.

About the CDROMs: The CDROMs enclosed in the booklet sleeves are audio CDs playable on any commercial CD player, home, school, automobile, or elsewhere. The audio format was chosen as .wav files rather than mp3 or other compressed formats to give the programs the largest audience. Other language resources are available from the VOICE OF AMERICA website at:

www.voanews.com/english/portal.cfm

CDROM ONE CONTENT: Track 1: Project Mercury (1), Track 2: Project Mercury (2) Track 3: Gemini (1), Track 4: Gemini (2), Track 5: Apollo (1)

CDROM TWO CONTENT: Track 1: Apollo 11, Track 2: Apollo 13, Track 3: Conclusion.

(Note: Each Audio Track is approximately 16 minutes in duration.)

Additional space exploration content is available at:

www.nasa.gov

For additional information contact: 281-483-6331

Programs are in the public domain. Credit should be given to VOA should these materials be reproduced in any form or fashion.