

COLUMBIA

First Flight of the Space Shuttle

人类征服太空的历程
(英汉读本)

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高铁铮 译

广西科学技术出版社



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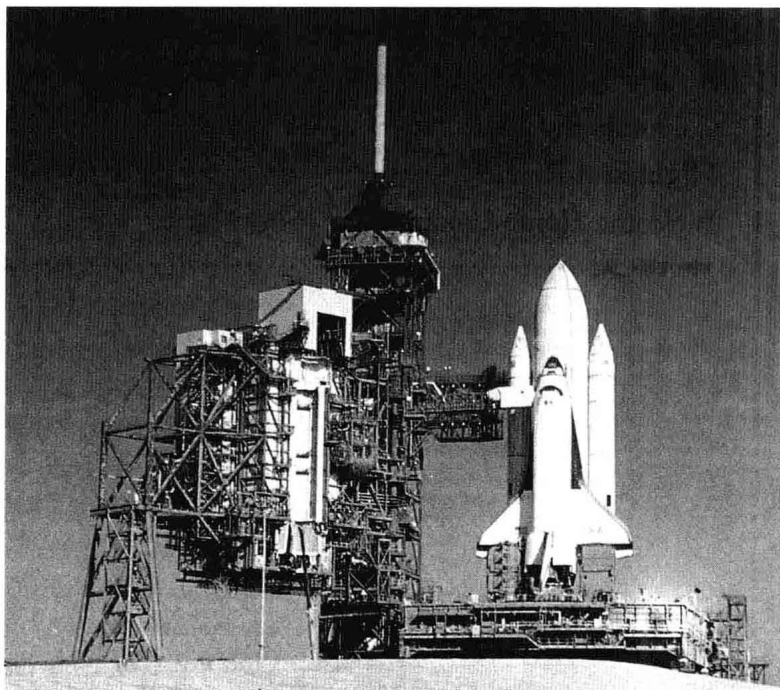
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The Space Shuttle Columbia waiting on the launchpad at the Kennedy Space Center in Florida.



1

A New Kind of Spaceship

The year was 1981. It had been six years since the last U.S. astronaut had rocketed into space. On that last flight, astronauts had linked up in space with Soviet cosmonauts for the *Apollo-Soyuz* mission.

The National Aeronautics and Space Administration (NASA) was about to begin a new era in space travel. It took more than ten years to develop, but the first space shuttle, *Columbia*, now sat on the launchpad at the Kennedy Space Center in Florida.

But it had been sitting there for three months.

Technical problems with the shuttle had delayed the launch several times. It was an incredibly complex machine.

When was it finally going to fly into space? Would it ever fly at all? No one knew for sure.

The first flight of the Space Shuttle *Columbia* would be a test flight different from any other in the history of the space program. Always in the past, when a new spaceship was first launched, it was an unmanned flight controlled from the ground. But the space shuttle was not like any other spacecraft.

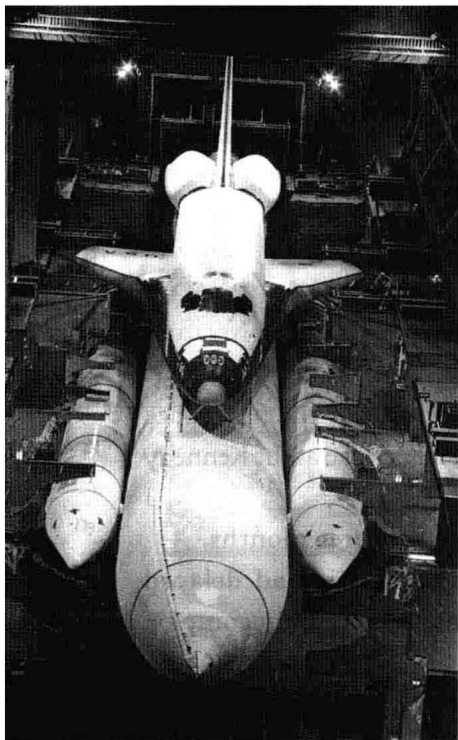
The space shuttle would be the first *reusable* spaceship. It would lift off from a launchpad like previous spacecrafts, but it would not splash down in the water. It would land on the ground like an airplane.

To do that, it needed a pilot.

On *Columbia's* very first flight, astronauts would be aboard. John Young and Robert Crippen were chosen for this challenging and dangerous task. Young was the most experienced astronaut in the program. This would be his fifth space flight. Crippen would be making his first flight into space.

Now, after three months of delays, NASA was ready

Columbia was a very complex machine. It would be the first reusable spaceship.



to try a launch on April 12, 1981. On that date exactly twenty years earlier, Soviet cosmonaut Yuri Gagarin had become the first person in space. April 12 would prove to be an historic date in space travel once again.

John Young and Robert Crippen woke before dawn. They ate the traditional NASA prelaunch breakfast of steak and eggs. Soon they were suiting up in their brown spacesuits and white helmets. Young and Crippen tested the suits, then removed the helmets. A van then carried the two astronauts three miles to the launchpad where the mammoth spaceship awaited them.

The pad was quite a sight. There were four parts to the space shuttle launch assembly—the external tank, two solid rocket boosters, and the shuttle orbiter itself. The large external tank was connected to the orbiter. The solid rocket boosters were attached to the external tank on opposite sides. The external tank contained the liquid fuel that would be burned by the shuttle orbiter's engines. The two boosters would burn solid propellants.

Young and Crippen stepped from the van and rode the pad elevator one hundred forty-seven feet up. Technicians waiting on top escorted them across a narrow bridge to *Columbia's* hatch. The technicians helped Young and Crippen into their positions aboard the shuttle's flight deck, then closed the hatch. Everyone cleared the pad in preparation for the launch.



John Young and Robert Crippen ate the traditional NASA breakfast of steak and eggs on the day of their flight.

This time, with only minor delays, the countdown went smoothly.

More than half a million spectators were watching the countdown from the roads and beaches and waterways surrounding Cape Canaveral. Millions more watched the countdown on live television. There was a definite air of excitement and tension as the launch drew near.

Less than a minute remained in the countdown. It looked as if *Columbia* would go this time. The launch director knew the world's first space shuttle was finally about to fly.

“Good luck, gentlemen,” he said. “T minus twenty seconds and counting. T minus fifteen, fourteen, thirteen, T minus ten, nine, eight, seven, six, five, four, we have gone for main engine start.”

The voice could no longer be heard, as a thundering roar echoed out across Cape Canaveral. Blinding white flames gushed from the solid rocket boosters and the orbiter’s three main engines. Thick clouds of smoke and steam surrounded the pad. At three seconds past 7 A.M. the Space Shuttle Columbia lifted swiftly off launchpad 39A.

The public address system announcer could not contain his excitement. “We have liftoff!” he cried. “Liftoff of America’s first space shuttle . . . and the shuttle has cleared the tower.”

The shuttle climbed higher and higher, riding a column of flame into the sky. The three main engines and solid rocket boosters were producing a combined 6.5 million pounds of thrust. The crowds cheered as the shuttle shot like an arrow toward space. It was a magnificent sight. Its velocity increased rapidly. After only two minutes *Columbia* looked like only a speck in the sky.

Communication with the shuttle was then switched over to Mission Control in Houston, Texas.

“You are Go at throttle up,” said the capsule communicator, or capcom for short.

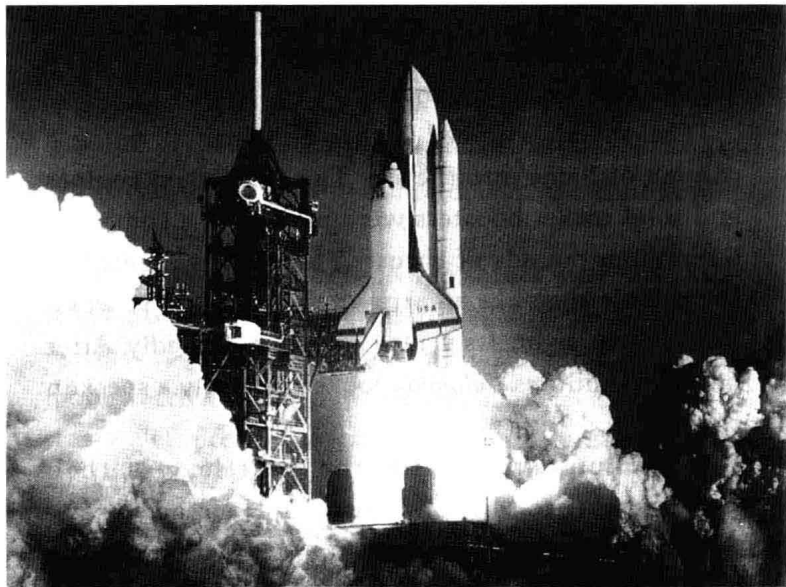
“Roger,” Young said.

The shuttle's main engines increased their thrust, and moments later the solid rocket boosters separated. They would parachute into the Atlantic Ocean and be recovered for reuse in a later mission. *Columbia* was now travelling at 6,200 feet per second.

The main engines burned for another six minutes. As *Columbia* shot over Bermuda, it was seventy-six miles high and moving at 13,000 feet per second.

"What a view, what a view!" Crippen said.

"*Columbia*, you are single-engine press to MECO," said the capcom. This meant that the shuttle could



Columbia made its historic liftoff at three seconds past 7:00 A.M.



Anxious workers at Kennedy Space Center gathered to watch Columbia's progress.

now get into orbit on one engine. And once in orbit the shuttle would have MECO—main engine cutoff.

Eight and a half minutes after liftoff, Young reported MECO. He and Crippen were now flying around the Earth at over 18,000 miles per hour.

The big external tank then separated from the shuttle orbiter. The tank would break up in the atmosphere and fall into the Indian Ocean. Minutes later, Young fired the orbital maneuvering system (OMS) engines for the first of two OMS burns. These OMS burns would put *Columbia* in a higher and more circular orbit. It was now flying about one hundred fifty miles above the Earth.

When the OMS burns were completed, the world's first space shuttle was successfully in orbit. The ship had performed almost perfectly since the moment it was launched.

The flight had just begun, but at NASA there was already reason to celebrate. The shuttle's launch had been almost two years behind schedule. The space program had faced tremendous challenges and solved many difficult problems designing and building the shuttle. Now, after all the struggles, *Columbia* was performing better than anyone could have hoped.

John Young and Robert Crippen would spend two days in space aboard the shuttle. Everyone hoped the rest of the flight would go as smoothly as the launch.



2

***Columbia* in Orbit**

During the launch, Robert Crippen's pulse rate had shot up to one hundred thirty beats per minute. The space rookie never denied that he was excited.

John Young, however, had been here before. Soon after the OMS burns, Young looked out *Columbia's* windows and said, "Well, the view hasn't changed any." The pulse rate of space veteran Young had never gone above eighty-five beats per minute. He later admitted he was nervous, but "I was just so old my heart wouldn't go any faster."

John Young was fifty years old. He was a serious and intelligent man who rarely showed his emotions. He had been a Navy test pilot before becoming an astronaut. In 1965, he and Gus Grissom flew in the first manned flight of the Gemini program. In July 1966,

Young commanded *Gemini 10* with pilot Michael Collins.

Young was next on the crew of *Apollo 10*. This flight was the last rehearsal flight before the first Moon landing mission (*Apollo 11*). As *Apollo 10*'s command module pilot, Young orbited the Moon while Tom Stafford and Gene Cernan flew the lunar module near the Moon's surface.

Three years later, in 1972, Young commanded *Apollo 16*. He and Charles Duke spent three days on the Moon. They drove the lunar rover more than twenty miles

over the Moon's surface. Young was walking on the Moon when Mission Control informed him the United States Congress had approved the space shuttle project.

"Our country needs that shuttle bad," Young said from the Moon. He had no idea he would one day be its first commander.

Robert Crippen was forty-three. His friends,



John Young was an experienced astronaut. Columbia was not his first voyage into space.



In 1972, astronaut John Young spent three days on the Moon as part of the Apollo 16 mission.

including John Young, called him “Crip.” He was a happy and outgoing man who seemed always to be smiling. In addition to being a Navy test pilot, he had a degree in aerospace engineering. Crippen became an astronaut with NASA in 1969. He had been waiting and training for his first flight into space for twelve years. It had been a long wait. But now he was at the controls of the most sophisticated space machine ever built. And he was flying it in space!