

The Last, Tragic Mission of Challenger

Twenty-four times, the space shuttle, in one of its four manifestations, has taken off from its launching pad. Each time, several days later, the space shuttle has returned its crews safely to earth.

On Jan. 28, at 11:38 a.m. EST, the 25th mission rose from the launch pad in a cloud of vapor and flame, just as all others have. One minute and 15 seconds later, however, the spacecraft Challenger exploded, killing all seven crew members and scattering debris over the ocean about 18 miles east of Cape Canaveral, Fla.

Billed by NASA as "a new chapter in space travel," this space flight carried high school teacher S. Christa McAuliffe, the first private citizen to fly aboard the shuttle. Commanding the crew was Francis R. Scobee; Michael J. Smith was the pilot. The three mission specialists were Judith A. Resnik, Ronald E. McNair and Ellison S. Onizuka. The payload specialist was engineer Gregory B. Jarvis.

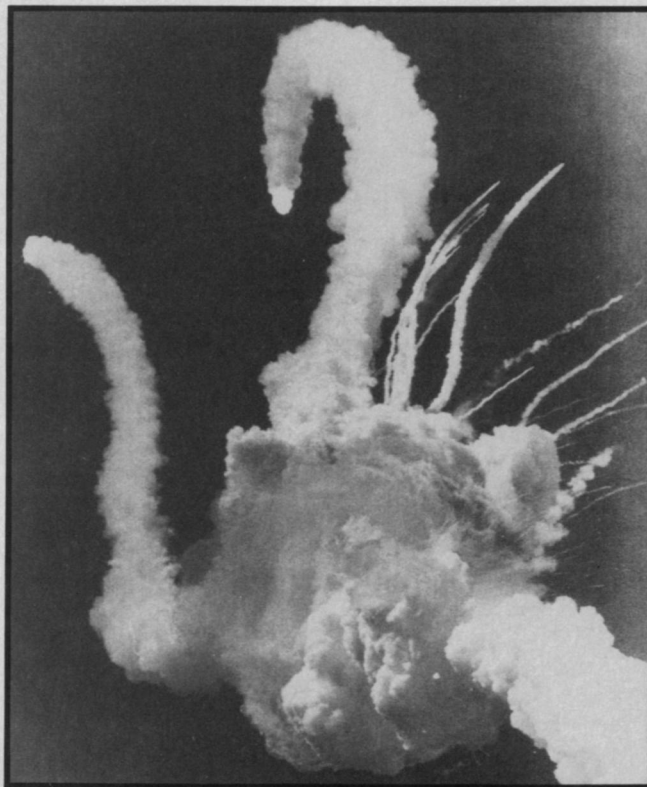
"We had forgotten how dangerous the space program really is," said one observer. This tragedy was the first involving loss of life in the U.S. space program since the death of three astronauts in a launch-pad fire on Jan. 27, 1967.

The Challenger, which had been scheduled to be launched on Jan. 24, had been delayed by a series of minor mechanical problems and inclement weather conditions. One concern had been the unusually cold weather that put icicles on the launch pad.

"There was absolutely no pressure to get this particular launch off," Jesse W. Moore, NASA's associate administrator for space flight, said after the crash. "We have always maintained that flight safety is our top priority consideration in the program, and we look at the status and readiness of the system based on that."

"We thoroughly reviewed the activities over the weekend and yesterday, and continually reviewed the status of Challenger right up until launch this morning," continued Moore. "All of the people involved in this program to my knowledge felt that Challenger was quite ready to go, and I made the decision . . . that we launch."

Initially, the spacecraft's two solid-fuel rockets boosted the vehicle as planned. A little less than a minute into the flight, the orbiter's three main engines began



Wide World Photos



NASA

Without warning, the massive explosion of the space shuttle shortly after launch claimed the lives of seven crew members. From left, back row: Onizuka, McAuliffe, Jarvis and Resnik; front row: Smith, Scobee and McNair.

firing at their maximum thrust. These engines were fueled from the huge external tank containing liquid hydrogen and oxygen. At this critical moment, the spacecraft was under greater stress than at any other time during its flight. Then an explosion, a tremendous flare, engulfed the fuel tank and the spacecraft. Early speculation suggested that the fuel tank may have leaked.

There was no sign of trouble during the first few moments of Challenger's flight. The five computers and associated sensors on board Challenger were continually transmitting data to the ground. "Nothing was unusual, and then the screen just went blank," said a spokes-

person for the IBM team monitoring the data at the Lyndon B. Johnson Space Center in Houston.

The explosion came with no warning, according to a spokesperson at the Mission Control Center in Houston. The last words from Challenger were Scobee's report: "Roger, go at throttle up." Moments later, there was only silence. No further data flowed from the spacecraft.

Debris raining from the sky delayed initial attempts to reach the ocean crash site. By the day's end, the searchers had found no large spacecraft remnants in the water or signs of the crew.

"I regret that I have to report," Moore told an afternoon news conference, "that based on very preliminary searches of the ocean where the Challenger impacted this morning, these searches have not revealed any evidence that the crew of Challenger survived."

The two solid-fuel booster rockets, both of which appeared to spiral off independently and out of control immediately after the explosion, also had not been located by press time. Normally, these booster rockets are recovered and reused.

Reaction to the tragedy came quickly. Person after person expressed a mixture of shock and sorrow. For many, the space shuttle flights had become almost as predictable and routine as airline flights. This year, NASA had planned to run 15 space shuttle missions (SN: 1/4/86, p. 6).

All of the flight data available at the Mission Control Center up to the time of the explosion were "secured" for future analysis. A NASA team was being put together to conduct a sweeping investigation of the disaster.

Available television pictures are not enough to determine the specific cause of the explosion, said Moore. "It will take all the data, careful review of that data, before we can draw any conclusions on this national tragedy." How long such an investigation would take is unclear. For the moment, future space shuttle flights have been postponed.

"We should not fly until we determine the cause of this particular failure," said Sen. Jake Garn (R-Utah), who flew on an earlier space shuttle mission. "But," he said, "the space program must continue, despite this disaster." —I. Peterson

