

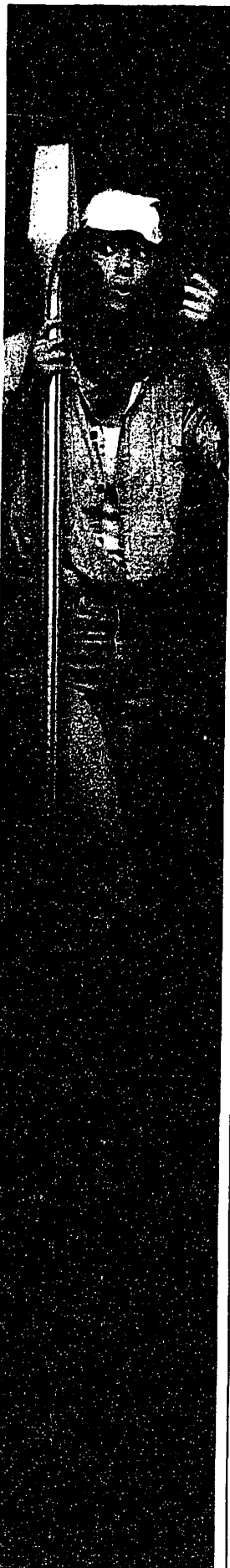
# THE ASTRONAUTS AFTER CHALLENGER: ASTRONAUTS ASTRONAUTS

By James Reston Jr.

*New York Times* (1923-Current file); Jan 25, 1987;

ProQuest Historical Newspapers: The New York Times (1851-2007) with Index (1851-1993)

pg. SM46



Blocked due to copyright.  
See full page image or  
microfilm.

KAY CHERNUSH

## THE ASTRONAUTS AFTER CHALLENGER

*Rick Hauck will command the first space-shuttle flight since the accident. "We asked ourselves, 'Is the net risk one we can now afford to take?'"*

**By James Reston Jr.**

**B**EFORE THE unthinkable happened on that bitterly cold January day in Florida, they were the elite's elite, operating in that strange, unforgiving stratosphere where only several hundred humans have ever been. They were trained to set aside their feelings, groomed to spout clipped, noncommittal responses in public. With space flight becoming virtually routine, they came to be seen as near-flawless human robots — those "genetically perfect Texans," as a British commentator once put it.

The explosion of the space shuttle Challenger on Jan. 28, 1986, changed all that. In one

*James Reston Jr. is the correspondent for the PBS "Frontline" documentary on the risks of space flight, to be shown on Tuesday.*

single tragic moment, the 100 or so highly trained, highly motivated astronauts suddenly became as fragile and vulnerable as earthbound mortals. Following subsequent revelations that in many shuttle missions the O rings in the joints of the solid rocket boosters had been dangerously compromised, the astronauts have been beset by a torrent of often conflicting emotions.

They have been torn between loyalty to NASA and a feeling of betrayal; pride in past missions and shame for spouting the company line; fear at past risks taken and fear of not getting another space flight. Astronauts have openly expressed their anger at the management of the National Aeronautics and Space Administration, or confessed that the euphoria of their job has been shattered, perhaps forever.

For Capt. Frederick H. Hauck, who had commanded the spectacular satellite-retrieval mission of November 1984, the initial shock lasted about six weeks. It was fol-

lowed by a longer, much more painful, period of grief and of a coming to terms.

"Some of us, including me," he says, "had this underlying feeling that we at NASA knew how to do this business of space flight. Then comes the accident, and there's . . . my God, I had faith in this system, and now that's no longer a foregone conclusion. I and most everyone began to look at the safety process from a different, more conservative angle."

As if to signal the end of a year of profound grief, confusion and rancor, NASA earlier this month presented Hauck as the commander of the first space-shuttle flight since the Challenger explosion (the mission is scheduled for February 1988). Today, as a measure of normality returns to the space agency, the reactions of crew members of the 1984 retrieval mission to the events of the past year and what they perceive as the lessons of the shuttle disaster reveal much about the thoughts and concerns of the astronaut

corps as they prepare for the post-Challenger era of space exploration.

**RICK HAUCK HAS THE** square build of a wrestler and the startling blue eyes one almost always expects of a naval-carrier pilot. He flew more than 100 combat sorties in Vietnam, and in 1974 returned to carrier duty as an F-14 test pilot. Before commanding the 1984 retrieval mission, designated 51-A, he had piloted an earlier shuttle flight. Within the corps, the 45-year-old astronaut is regarded as a model of patience and dispassion.

Hauck's pilot on the 51-A mission was David M. Walker, then 40 years old, a wry, intense Floridian who was also a naval officer and a test pilot. The two men have been close friends since the early 1970's when they tested F-14's together at the Patuxent Naval Air Test Center.

They were joined by three "mission specialists," the nonpilot astronauts who make up half the corps and who handle the space cargo.

Joseph P. Allen — a merry, relentlessly upbeat elfin figure and a Yale-educated physicist — was, at age 47, the old-timer in the crew.

The mission's flight engineer was 35-year-old Anna L. Fisher, who had graduated from the medical school of the University of California at Los Angeles, and who specialized in emergency medicine. Fisher, like many astronauts, is cheery and upbeat; her husband, William, is also an astronaut-physician.

The third mission specialist was Comdr. Dale A. Gardner, then age 36, a thoughtful naval navigator from Illinois who had flown in the back seat of F-14's at Patuxent with Hauck and Walker.

Together, this crew provided some of the most thrilling moments of the early shuttle era. As the world watched, they took up two satellites and launched them, then retrieved two broken satellites, placed them in the payload bay and brought them home safely.

Prior to the Challenger disaster, Hauck, Walker, Fisher and Gardner had been assigned to various missions. (Allen had resigned from the corps in June 1985 to join a new space company.) Three days before the incident, Hauck was in training for a high-risk shuttle flight called Ulysses, scheduled for launching in May 1986. Ulysses was coupled with another high-risk mission, known as Galileo, which was to be under Walker's command. The destination of Galileo's payload was Jupiter; that of Ulysses', the sun.

These shuttle missions — to be launched within five days of each other — were to be the space spectacular of 1986, one the scientific world had excitedly awaited for years. What made them particularly risky was the volatile quality of their payload: high-energy rockets called Centaurs. To propel them on their 14-month trip to Jupiter, the rockets would be laden with liquid hydrogen and liquid oxygen, even though liquid fuel had never before been carried in the payload bay. Once the shuttles were in orbit, and barring any glitches, the rockets would be released and sent on their way to Jupiter and beyond. The mission crews would then return home.

If a mission needed to be aborted, the liquid fuels would have to be dumped in space. But in December 1985, the valve for this hazardous space dump had failed its qualification test. Further-

more, a component of the Centaur was a small generator that was powered with radioactive material. In Congress, there were questions. What would happen if there were an explosion on the launching pad or in the ascent phase? Would it mean the detonation of a nuclear device over Florida?

In the days before the Challenger disaster, Hauck and Walker were caught between a desire to fly in space again and their rising concern over the dangers of the Centaur system. To the commanders, the political talk about a launching-pad nuclear explosion was beside the point.

"Personally, we didn't care what happened to the generators if the orbiter blew up on the pad," recalls Walker, "because it would have zero consequence for us. We didn't really care if there was going to be an increase in cancer deaths over the next 50 years, because we would be transformed into hunks of radioactive hydrocarbon. We were a lot more concerned that we didn't blow up at all."

Although the technical problems were coming faster than the solutions, the Centaur launching dates in May remained fixed. (Along the hallways of Building 4 at the Johnson Space Center in Houston, where the astronauts have their offices, the Centaur came to be known as "the death star.") The space program was "success oriented," with that can-do spirit that the Rogers Commission, set up to investigate the Challenger explosion, would say was part of NASA's delusion of infallibility.

**T**HEN, 73 SECONDS after take-off, the Challenger exploded.

Dale Gardner felt as if he and his fellow astronauts had been surfers upon high waves. "We did the Solar Max repair in space and people said, 'My God! What can they do now?' Then 51-A came. We brought two satellites back, and they said, 'Wow, that's got to be the limit.' Then a subsequent crew fixed a satellite in space and put it back into orbit, and they said, 'Christ, where can this whole thing stop?' It was like waves coming into shallow water. They rise and rise and rise. Maybe we didn't realize that eventually all waves crash on the beach."

Within a week of the accident, the entire Centaur pro-

(Continued on Page 52)

# ASTRONAUTS

*Continued from Page 47*

gram — Ulysses and Galileo and all the Centaur flights on the shuttle that might have followed — came under intense re-evaluation. "The Centaur

program was recognized as one of the riskier flights planned," says Hauck, "and now concerns we might have been comfortable with before the ac-

cident, we took a very, very close look at. We asked ourselves, 'Is the net risk one we can now afford to take?'"

Central to the Centaur discussion was a point that came out of the Challenger investigation. The O ring flaw on the solid rocket boosters had become acceptable as a flight risk after a number of flights escaped catastrophe, and Hauck worried not so much

about his own flight but about Centaur flights that would follow his.

"We felt that even if we got away with it, the serious design deficiencies might later be disastrous," says David Walker. "So we took the position, we'll march like good soldiers. If anyone flies Centaur, we want to do it. But it's also our duty to tell you that it isn't a good idea to charge this particular hill."

For Hauck, the ambivalence of that position went against the most sacrosanct code of the test pilot. In that cult, the aviator never wants to be in a position of saying, "I don't want to go."

Could the "new environment," as Hauck calls the post-Challenger ethos, be compared to a post-Watergate morality? "Morals were not involved in the Challenger accident," he replies testily. "I don't think anyone willingly subverted the system within NASA. In the new environment, we were brought back to earth. We were suddenly fallible. Some of us, including myself, may have begun to think we were infallible."

On June 19, 10 days after the Rogers Commission released its report, the Centaur program was formally canceled. At the final meeting, led by James C. Fletcher, the new NASA administrator, the Ulysses and Galileo commanders were asked directly for their recommendations, and they recommended cancellation.

Walker's disappointment was profound. In January 1986, he was a few months away from commanding what could have been the most significant scientific space mission of the century. A month later, he was part of a four-man astronaut detail combing the beaches of Cape Canaveral for the body parts of the Challenger crew.

**A**STRONAUTS CALL THE process of judging risk "risk assessment"; the Rogers Commission called it "risk management" or "hazard analysis." Whatever it is called, it implies that there is no such thing as zero risk in the space business. In the aftermath of the Challenger incident, the astronauts have been especially angered by the revelation that they had been kept in the dark about the unreliability of the O rings in the solid rocket boosters. Without knowledge, there can be no assessment.

"There was not a single member of that astronaut office who did not feel a profound sense of betrayal at not being told about the O rings," says Joseph Allen, now an executive at Space Industries, a company formed by Max Faget, the NASA engineer who had designed the Mercury capsule. Soon after the 51-A mission touched down, Allen began to plan his departure. He felt there was a satisfying symmetry in his being on the first shuttle flight to take cargo into space (in 1982) and in being on the first to return cargo from space. He was pushing 50 and it was time, as he puts it, "to decide what I was going to do when I grew up."

*(Continued on Page 54)*

# ASTRONAUTS

Continued from Page 52

Within Allen's own family, there was great relief when he left NASA. His wife, Bonnie, had never gotten used to her husband's occupation. "It seemed strange to me that once Joe was assigned to a flight, for two years we would prepare for that day," she says, "not knowing whether something might happen or whether he would come back with joy. That to me was bizarre, because any of us know that our husbands can go to work in a car and possibly have an automobile accident and not come home. But you never prepare for that day. It just happens, and then you take it from there."

Anna Fisher has always prided herself on her honest, unvarnished attitude toward risk. Since joining the astronaut corps in 1978 (which puts her in the same astronaut class as Hauck, Walker and Gardner), she had never watched a shuttle launch without anxiety. Her husband, Bill, had a very different attitude toward risk. "His assumption," she says, "was that nothing was going to happen, and that's how he acted."

For those like Dale Gardner, Fisher's fellow mission specialist on the 51-A mission, who has tested high-performance jets, there is a magical curtain drawn across risk. "Accidents are on the other side of that curtain," he says. "Anyone who comes from the test-pilot side of the business feels that an accident is never going to happen to him. If something happens, it will be to someone else. We all have that. I can objectively remove myself and say, 'Dale, that's stupid. If that airplane has a flaw, it's going to blow up, and it doesn't know who the pilot is.' It's the way your brain rationalizes away the risk. That's a positive thing. It takes away the worry and lets you concentrate on your job."

For Gardner, the Challenger accident had no bearing on the attitude toward risk. For Anna Fisher, such an attitude has its consequences. "In a sense, the accident may help the program," she says. "Some people are denying the risk. Others wouldn't take abort decisions seriously. Anyone who thinks that is kidding himself."

At the time of the shuttle

launch last January, Fisher was three weeks away from her second space flight. In fact, the makeup of her crew and that of the Challenger had been announced at the same time, and the two groups held their celebratory beer bust together. The manifest kept changing, a normal enough occurrence in the days of "routine" space flight, and at one point Fisher's crew, rather than Francis R. Scobee's, was scheduled to fly the Challenger on the 28th.

While she appreciates risk as an inherent component of her job, Fisher has to reconcile that risk with her role as mother. (She was the first American woman with a child to go on a space mission.) By the date of the 51-A liftoff, her daughter, Kristin, was 15 months old. The hardest thing she ever did in that mission, Fisher recalls, was to leave her daughter and head for the launching pad.

She had written her child a note and sealed it. The note did not address risk. It addressed uncertainty. "I was trying to tell her ... who knows how things will go," Fisher says. "No matter what happens in the future ... in space flight or in our relationship ... she came along and gave me incredible joy, a balance and perspective that made me a better person. That's mainly what I wanted to say in that letter. I intend to give it to her when she's older."

**D**ALE GARDNER, TOO, has a young child, a son named Todd who is seven months older than Kristin Fisher. But he declines to comment on such an emotional matter as parenthood and space risk. The classic test navigator, he prefers to discuss his work.

A year ago, he was anticipating his mission on the first shuttle flight out of Vandenberg Air Force Base in California. If there was any mission that could top his capture of the stray satellite on the 51-A flight (a picture of that feat made the cover of Time magazine), being one of the first five Americans to enter polar orbit was it.

The first Vandenberg flight was originally planned for October 1986. Six months after the Challenger exploded, the entire Vandenberg space facility was mothballed. The Department of

Defense has predicted that the first shuttle flight into polar orbit will not take place from Vandenberg until 1992.

In the summer, Gardner found the atmosphere in Houston disheartening. "The astronaut's dream is to come off one flight and immediately begin training for another," he says. "That is great fun, believe me. Then all of a sudden nobody's training because we're not flying. Everybody is put on jobs trying to get the shuttle to fly its first flight again. . . . Depressing isn't the right word for it, but the lack of euphoria was definitely there."

Quietly, throughout the corps, astronauts like Gardner began to think seriously about their futures. In late summer, Gardner got in touch with the Navy and expressed his desire to return to active service. He did not tell any of his fellow astronauts what he had done.

Encouraged by President Reagan's Star Wars program, those with a military background and a space specialty are increasingly looking to a career that combines both areas of expertise. A year or so ago, the military services consolidated all space activities under one unified command — the United States Space Command — located at Peterson Air Force Base in Colorado Springs. In October, Gardner took up his new post as deputy chief, space control operations division, United States Space Command.

Gardner is among the 18 astronauts who have either left NASA or been assigned management posts since the Challenger disaster. Neither Anna Fisher nor David Walker is likely to join that group. In Houston, Walker waits, the rookie commander without a mission and without any signal that he would fly early.

"I've learned enough about NASA to know that whatever I speculate upon will have zero bearing on what happens," he says matter-of-factly. "This is a situation one can't control, and it's best not to stew about it. No one wants to be perceived as being concerned with personal benefit, as opposed to the future of the program. It is a good enough reward to fly at all. I'm really addicted. I cast my lot with this outfit when things looked good. Now that things don't look so good, I'm not going to pull my hat out of the ring. I love the idea of going back to space — and the idea of commanding a space ship. Until I have done so, I'll stick." ■