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From Giant Leaps to Baby Steps

By EUGENE F. KRANZ

Houston

To read and listen to the coverage about the space shuttle, you would think NASA's mission team has taken careless risks with the lives of the seven astronauts who went into space on the Discovery last Tuesday. During the launching, foam fell off the external tank. For the risk-averse, the only acceptable thing to do now is retire the shuttle program immediately and wait for the divine arrival of the next generation of spacecraft. I am disgusted at the lack of courage and common sense this attitude shows.

All progress involves risk. Risk is essential to fuel the economic engine of our nation. And risk is essential to renew American's fundamental spirit of discovery so we remain competitive with the rest of the world.

My take on the current mission is very straightforward. The shuttle is in orbit. To a great extent mission managers have given the spacecraft a clean bill of health. Let us remember that this is a test flight. I consider it a remarkably successful test so far.

The technical response to the Columbia accident led to a significant reduction in the amount of debris striking this shuttle during launching. Mission managers have said that the external tank shed 80 percent less foam this time than on previous launchings. Only in the news media, apparently, is an 80 percent improvement considered a failure. Rather than quit, we must now try to reduce even more the amount of foam that comes off the tank.

The instruments and video equipment developed to assess the launching and monitor debris falling from the tank worked superbly. For the first time, the mission team knows what is happening, when it is happening and the flight conditions under which it occurred. This was a major mission objective, and it is an impressive achievement.

Having spent more than three decades working in the space program, I know that all of the flights of the early days involved some levels of risk. Some of those risks, in hindsight, seem incomprehensible by today's timid standards. If we had quit when we had our first difficulties in Project Mercury, we would have never put John Glenn on the Atlas rocket Friendship 7 in 1961. Two of the previous five Atlas rockets test-fired before Friendship 7 had exploded on liftoff.

On Gemini 9, 10 and 11, all in 1966, we had complications with planned spacewalks that placed the astronauts at risk. Rather than cancel the walks, we faced the risks and solved the problems. These set the stage for Gemini 12 later that year, during which Buzz Aldrin spent more than five hours outside the capsule and confirmed to NASA that spacewalks could be considered an operational capability.

Eventually, this ability enabled astronauts to retrieve satellites and repair and maintain the Hubble space telescope; and during the current mission, spacewalks were used to repair a gyroscope on the International Space Station and will allow the crew to fix some of the damage that occurred during the launching. These are the rewards for the risks we took on those early Gemini flights.

I understand the tragedy inherent in risk-taking; I witnessed the fire aboard Apollo 1 in 1967 that killed three crew members. It filled us with anger at ourselves and with the resolve to make it right. After the fire we didn't quit; we redesigned the Apollo command module. During the Apollo missions that followed, we were never perfect. But we were determined and competent and that made these missions successful.

I see the same combination of anger, resolve and determination in the space shuttle program today. These people are professionals who understand risk, how to reduce it and how to make that which remains acceptable. Most important, the current mission has demonstrated the maturity of the shuttle team that endured the Columbia disaster and had the guts to persevere. This is the most important aspect of the recovery from the Columbia accident, and is a credit to the great team NASA now has in place, headed by its administrator, Michael Griffin.

There are many nations that wish to surpass us in space. Does the "quit now" crowd really believe that abandoning the shuttle and International Space Station is the way to keep America the pre-eminent space-faring nation? Do they really believe that a new spacecraft will come without an engineering challenge or a human toll? The path the naysayers suggest is so out of touch with the American character of perseverance, hard work and discovery that they don't even realize the danger in which they are putting future astronauts - not to mention our nation.

Eugene F. Kranz, author of "Failure Is Not an Option: Mission Control From Mercury to Apollo 13 and Beyond," is a former Apollo flight director.