

## Seal likely cause of shuttle tragedy

THE ASSOCIATED PRESS

HOUSTON — Columbia investigators said Tuesday that they are growing more certain of what brought down the shuttle: A seal on the left wing was struck by foam during liftoff and fell off the next day, creating a gap that let in enough scorching gases during re-entry to rip the ship apart.

A seal from Columbia's left wing is believed to be the mystery object that floated away in orbit, and it was almost certainly struck by something — such as a chunk of foam — before it came off, the accident investigators said.

"For 11 weeks, we have been saying that we don't have any particular scenarios, any favorite scenarios," said retired Navy Adm. Harold Gehman Jr., chairman of the investigation board. "But I think 11 weeks into this, it's time that we attempted to see where the evidence was pointing us," and so the board will meet with NASA officials later this week to begin reaching a hypothesis.

The final report is not expected

until midsummer.

At their weekly news conference, the investigators also said numerous defects have been found in insulating foam on a fuel tank practically identical to the one on Columbia. A chunk of the foam peeled away from Columbia's fuel tank shortly after liftoff and slammed into the leading edge of the left wing, believed to be a key element of the Feb. 1 disaster that killed all seven astronauts.

The investigators said the long, narrow gap from a broken or missing seal on the left wing probably expanded during Columbia's descent two weeks later because of the intense heat of re-entry.

The resulting breach would have been large enough for atmospheric gases to burn their way through the wing and lead to the spaceship's disintegration over Texas.

Navy Rear Adm. Stephen Turcotte, a board member, said that it is still too soon to say that is exactly what happened but that the evidence points strongly in that direction.

"To say it was, in fact, a T-seal 100 percent, we suspect that," Turcotte said. "I mean, we're up there. We're up there near the 70s and 80s percent."

Radar and other tests indicate a so-called T-seal is what was seen floating away from Columbia on its second day in orbit; the object was not noticed during the flight but only in analyses after the accident. More work is planned to ascertain whether it may have been a complete seal or just a fragment of one or possibly a blanket insulator or part of an actual wing panel.

The seals fit between pairs of panels that are made of the same reinforced carbon composite material and are designed to withstand temperatures of up to 3,000 degrees during re-entry. These seals and panels wrap around the leading edge of each wing.

Turcotte said age or wear and tear alone could not cause such a seal to fall off a shuttle wing.

He said, "It had to be the result of some blunt-force trauma, the transfer of kinetic energy, somehow."

## Deployment of twin brothers strains family

BY MATT SALDANA  
STAFF WRITER

When Maryanne Nichols' son Bobby Ball was deployed last September, she didn't know where and when he would be fighting — if at all.

But in February, when Bobby Ball's twin brother, Billy, was deployed with the threat of war hanging over the country, it was clear that her two 25-year-old sons would be serving as first lieutenants in Iraq.

"I think I took Billy's deployment a little harder because we knew why he was going," Nichols said. "It was a very emotional goodbye with Billy."

Both serve in the Army Reserves. Billy Ball serves in the 101st Infantry Division, operating an 81 mm mortar. Bobby Ball is a platoon leader of five tanks in the 3rd Infantry Division.

Meredith Craven, Billy Ball's girlfriend since she was a freshman and he was a sophomore at UNC in 1997, said she felt a lot of anxiety and fear when she learned of the deployment.

But she said his pride in military service and her pride in him have assuaged her anxieties.

"I'm so proud of him, and when I think about him — no sleep, no food, nothing — it makes it hard to feel sorry for yourself," she said.

"The one thing he said is always keep it in perspective. When you're watching CNN and it says, 'Two Soldiers Killed Today,' you've got to keep it in perspective," Craven said.

Both Craven and the Ball twins' parents have had to rely on news services such as CNN to learn of anything related to the twins. Since war broke out, they have not heard from either of them.

"I hope they're getting all of our letters, but in return we'd like to receive some letters back," said Bucky Ball, Billy and Bobby's father. "I've gotten letters in the mail three months late, from when they were in Kuwait."

Bucky Ball added that when he served in Vietnam, mail was more of a priority than it appears to be in the war on Iraq.

In addition to the twins' father

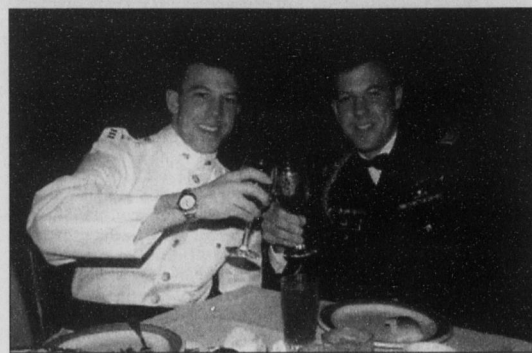


PHOTO COURTESY OF MEREDITH CRAVEN

Twenty-five-year-old twins Bobby (left) and Billy Ball are serving in Iraq. The twins were deployed in September and February, respectively.

serving in Vietnam, their grandfather served in World War II and their great-grandfather served in World War I.

"When (Billy) was really small, he had no interest in (serving) at all and wanted to make sure he didn't have to go," Nichols said.

But when he entered high school in Ramseur, the small town east of Asheboro where the twins grew up, Nichols said Billy Ball made a complete turn-around in his feelings about continuing the family tradition of military service.

Upon turning 17, Billy and Bobby Ball enlisted in the Army Reserve.

At first, Bucky Ball was opposed to his sons' change of heart.

"There's no need to go into service," he told his sons before they enlisted. "We've had generation after generation go into service; I think it's OK to skip a generation."

But the twins' parents were delighted with the responsibility and education the brothers acquired through their ROTC programs — Billy Ball at UNC and Bobby Ball at West Point Academy. "Billy loved being at UNC," Nichols said. "He really grew up and matured while he was there, and ROTC really showed him the discipline that he needed."

Craven, who said Billy Ball had a wild side during his high school years, said people wouldn't recog-

nize him after his maturation at UNC. "Over time, he's very much so mellowed out," she said. "He's very laid-back now."

But despite Billy Ball's newly acquired stoicism, he retained his outgoing charm as he rose through the ranks of the ROTC program at UNC.

"He was a very popular cadet; everybody liked him," said Todd Brown, senior military science instructor at UNC.

"He was one of our leaders here who took our newer cadets and brought them up to speed," he said.

Brown added that this brand of affable leadership would help Billy Ball succeed as a first lieutenant in Iraq.

"His guys love him, and he loves them," Craven said of Billy Ball's platoon of 30 soldiers. "It's a good situation with a lot of camaraderie."

Craven said that Billy Ball told her of a bond he has not only with his men but also with Chapel Hill.

"The things he talked about were going back to Chapel Hill and walking through campus and thinking about where he's been," she said.

"I hope that when Billy gets back he considers Chapel Hill his home and gets the reception he deserves."

Contact Features Editor at features@unc.edu.

## U.S. looks to raise funds for Iraq

THE ASSOCIATED PRESS

WASHINGTON, D.C. — Even before issuing a formal declaration of victory in Iraq, the Bush administration is laying plans for an international donors conference to raise money for Iraq's rebuilding.

Dov Zakheim, the Pentagon's budget chief, said in an Associated Press interview Tuesday that the administration has no estimate of how many billions of dollars it will take to reconstruct the country,

which has been damaged by more than a decade of sanctions.

Defense Secretary Donald H. Rumsfeld said Monday that the war is not over yet, but more U.S. warplanes are headed home even as ground troops prepare for a longer stay to stabilize the country.

A first group of about 10 F-15E Strike Eagles will return to Seymour Johnson Air Force Base, in North Carolina on Wednesday, and F-15Cs and F-16Cs are due back

at other U.S. bases Thursday and Friday, Air Force officials said. B-2 bombers and F-117A stealth fighters already have returned.

Two of the five Navy aircraft carriers that participated in the war left the region last week.

Zakheim said a number of countries already are providing or pledging assistance for the earliest stages of stabilization and laying a foundation for rebuilding Iraq's oil-based economy.

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