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02/25/2010

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Death in the Atlantic

The Last Four Minutes of Air France Flight 447

By Gerald Trautetter

Part 3: Minute Two: Loss of Control

Did the pilots on flight AF 447 know about the airspeed indicator failures experienced by colleagues on nine other aircraft belonging to their own airline? Air France had indeed distributed a note about this to all its pilots, albeit as part of several hundred pages of information that pilots find in their inbox every week. One thing is certain: The pilots on flight AF 447 had never trained in a flight simulator for a high-altitude breakdown of the airspeed indicator.

The situation in the cockpit was made even more difficult by the fact that the flight computer of the A330 put itself into a kind of emergency program. The plane's digital brain usually supervises all activity by its pilots -- at least, as long as its sensors provide reliable data. Without a speed reading, the computer more or less throws in the towel, which doesn't make things easier for the pilots.



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Graphic: The last four minutes of Air France flight 447.

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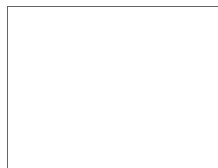


Photo Gallery: The Final Minutes of Flight 447

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"The controls suddenly feel completely different to the pilot," says flight expert Hüttig. The sheer complexity of the Airbus' systems makes it difficult to control in critical phases of the flight. It would be easier for pilots if they could simply switch the computer off in critical situations, as is possible on Boeing planes.

Pitot tubes sometimes also fail on Boeing aircraft. When SPIEGEL contacted the American Federal Aviation Administration, the body which oversees civilian flight in the US, the FAA confirmed that there had been eight such incidents on a Boeing 777, three on a 767, and one each on a 757 and a Jumbo. Boeing is currently conducting a study on the safety effects of "high-altitude pitot icing on all models in its product line," says FAA spokeswoman Alison Duquette. The FAA did not, however, identify "any safety issues arising" during these incidents.

Could it therefore be that the flight computer, which is hard to manage in emergencies, actually contributed to the loss of control by the Airbus pilots? Air-safety experts Hüttig and Arnoux are demanding an immediate investigation into how the Airbus system reacts to a failure of its airspeed sensors.

Unexpected Reaction

In early March, the BFU in Germany is due to publish the findings of its investigation into the near-crash of a Lufthansa A320 two years ago at Fuhlsbüttel Airport in Hamburg, a report that will undoubtedly prove uncomfortable reading for Airbus. In that incident, an unexpected reaction by the flight computer caused the jet's left wing to scrape along the runway while landing. The BFU is due to issue 12 safety recommendations, some of which concern Airbus' computer programs.

So far, it's unclear who was controlling the Air France plane in its final minutes. Was it the experienced flight captain, Dubois, or one of his two first officers? Typically, a captain retreats to his cabin to rest a while after takeoff. Indeed, there's corroborative evidence to suggest that the captain was not sitting in the cockpit at the time of the crash: His body was recovered from the Atlantic, whereas those of his two copilots sank to the bottom of the ocean still attached to their seats. This would suggest that Dubois was not wearing a seatbelt.

In contrast to many other airlines, it is standard practice at Air France for the less experienced of the two copilots to take the captain's seat when the latter is not

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Death in the Atlantic: The Last Four Mi...

there. The experienced copilot remains in his seat on the right-hand side of the cockpit. Under normal circumstances, that is not a problem, but in emergencies it can increase the likelihood of a crash.

As a consequence, it was probably the plane's third pilot, Pierre-Cédric Bonin, a dashing amateur yachtsman, who steered the aircraft to its doom. Bonin's wife was also on board, while their two children were at home with their grandfather.

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03/10/2010 from parkermorris: Can't be Pitot Tubes... Can It?

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03/01/2010 from dougf: Of Pitot Tubes and Temps...

Bukahaka: Good question on heated pitot tubes, I know that military aircraft (F-111 and the F-15 among others) heat their pitot tubes to 400F to prevent just such icing problems. Does the Airbus in question have heated pitot [...] more...

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