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Death in the Atlantic

The Last Four Minutes of Air France Flight 447

By Gerald Trautetter

Part 4: Minute Three: Freefall

Not long after the airspeed indicator failed, the plane went out of control and stalled. Presumably the airflow over the wings failed to provide lift. Arnoux, from the pilots' union, estimates that the plane fell toward the sea at about 42 meters per second (95 mph) -- almost the same speed as a freefalling parachutist.

Arnoux's version of events is based in part on the timing of a transmitted error message about the equalization of pressure between the cabin and the outside of the plane, which usually happens at 2,000 meters (7,000 feet) above sea level. Had the airplane nosedived, this alarm would have been triggered earlier. "It takes almost exactly four minutes to freefall from cruising altitude to sea level," Arnoux says.



DER SPIEGEL

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

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According to this scenario, the pilots would have been forced to watch helplessly as their plane lost its lift, the pilots would have been forced to watch helplessly as their plane lost its lift. That theory is supported by the fact that the airplane remained intact to the very end. Given all the turbulence, it is therefore possible that the passengers remained oblivious to what was happening. After all, the oxygen masks that have been recovered had not dropped down from the ceiling because of a loss of pressure. What's more, the stewardesses weren't sitting on their emergency seats, and the lifejackets remained untouched. "There is no evidence whatsoever that the passengers in the cabin had been prepared for an emergency landing," says BEA boss Jean-Paul Troadec.

Two seemingly insignificant lines from the warning reports transmitted by the aircraft show how desperately the pilots fought to keep control. They read "F/CTL PRIM 1 FAULT" and "F/CTL SEC 1 FAULT".

This somewhat cryptic shorthand suggest the pilots tried desperately to restart the flight computer. "It's like trying to turn your car engine off and then on again while driving along the motorway at night at 180 kilometers an hour (110mph)," says Arnoux.

The attempt to resuscitate the on-board computer proved unsuccessful. For the last 600 meters (2,000 feet) before impact, the pilots' efforts would have been accompanied by the chilling calls of an automated male voice: "Terrain! Terrain! Pull up! Pull up!"

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Part 1: The Last Four Minutes of Air France Flight 447

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

I still bear the scar that I received after grabbing a heated pitot tube on an American Eagle Jetstream 31 (J31) aircraft shortly after it had landed from a 30 minutes flight. I find it so incredible that this advanced Air France [...] more...

03/02/2010 from jfflys:

Measuring speed by GPS would give you groundspeed which at this altitude is wildly different from the indicated airspeed that you would see on the gauges. Pitot tubes measure the impact pressure of the air, and since air is less [...] more...

03/02/2010 from netshade:

---Quote (Originally by schwammy)--- "To this day, the relevant licensing bodies still only test pitot tubes down to temperatures of minus 40 degrees Celsius (minus 40 degrees Fahrenheit)..." I'm pretty sure that -40F and [...] more...

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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