



World

Main The China Blog The Middle East Blog Postcards Global Adviser Videos Podcast

Can the Air France Crash Be Solved With No Black Box?

By BRUCE CRUMLEY / PARIS Friday, Jun. 12, 2009



Brazil's Navy sailors recover debris from the missing Air France jet at the Atlantic Ocean, Monday, June 8, 2009.

Brazil's Air Force / AP

As a French nuclear submarine arrived off the coast of Brazil to join the effort to locate the black box from Air France Flight 447 on Thursday, aviation experts stressed the necessity of recovering those cockpit recorders in order to learn what exactly brought down the Airbus A330 and the 228 people on board. In past inquiries into airline disasters, investigators have been able to figure out the cause by piecing together clues from the wreckage itself, sometimes without information from the black box. But after 10 days of searching, the authorities combing what's believed to be Flight 447's crash site, some 700 miles (1,125 km) out to sea, have come up with only 41 bodies and relatively little of the plane's wreckage. And that, experts say, is not nearly enough.

Sponsored Links

Financing the Jihad
How extremist groups make their money. Get the story on FLYPMedia.com. <http://www.FLYPMedia.com>

I Had High Blood Pressure
Now it's down to 120/75. Find out how I did it without drugs www.resperate.com

[Buy a link here](#)

Related

Photos



The Search for Flight 447

Stories

- Could a Computer Glitch Have Brought Down Air France 447?
- What Brought Down Air France

"Based on what has been recovered thus far, you really can't expect investigators to come up with much about how and why the plane came down," says Vincent Favé, an aeronautic engineer and judicial expert who has participated in past French aviation investigations. "What they do have supports the obvious hypothesis that the plane broke up while still in the air. But with so little debris and few victims recovered this late, they'll really need to get the black box to have any chance of finding out what happened." (See pictures of the search for Flight 447.)

Favé and other air-safety experts warn that rough seas and worsening weather in the search area are already lowering the chances of finding more significant evidence. That, they say, increases the value of the 24 automated alerts the A330 emitted just before it vanished on June 1. Those warnings signaled electrical problems, reduced cabin pressure, considerable turbulence and, above all, conflicting information from the three Pitot tubes, devices that help pilots determine the plane's speed. Based on the alerts, one of the leading theories now is that malfunctioning sensors may have prevented the crew from correctly gauging the plane's velocity as it entered a turbulent zone. Traveling too fast

SUBSCRIBE TO TIME & RECEIVE A FREE GIFT

Most Popular »

[Full List »](#)

MOST READ MOST EMAILED

1. Tagged: The World's Most Annoying Website
2. WHO Declares Swine Flu Pandemic
3. Can the Air France Crash Be Solved With No Black Box?
4. Smoke Signals: Why a Tobacco Giant Backs a Tough New Antismoking Bill
5. The Storm Over the Mormons
6. As Iran Goes to Polls, Opposition Warns Of Vote Rigging
7. How Twitter Will Change the Way We Live
8. It's Official: H1N1 Flu Is a Pandemic
9. What Brought Down Air France Flight 447?
10. Guns, Germs and Recession: The Curse on Mexican Tourism

Video

[More Videos »](#)

Upgrade Flash Player

Please upgrade your Flash player version to enable sign in



Family Tech: Top-of-the-Line Backyard Smoker

Time.com on Digg

UPCOMING POPULAR TODAY

- 56 GM's New Ad Campaign: Will It Restart the Engines?
- 54 Guns, Germs and Recession: The Curse on Mexican Tourism
- 39 Five Facebook No-Nos for Divorcing Couples
- 13 Tagged: The World's Most Annoying Website
- 2 Smoke Signals: Why a Tobacco Giant Backs the Bill

Flight 447?

More Related

- [What Might Have Made the Air France Flight Disappear Over the Atlantic?](#)
- [Could a Computer Glitch Have Brought Down Air France 447?](#)
- [Possible Debris from Air France Flight Found](#)

in such conditions could have caused the A330 to break up; insufficient speed could have caused it to fall from the sky. (Read "[What Brought Down Air France Flight 447?](#)")

"At those kind of altitudes, the gap between excess speed and stalling narrows, especially when you factor in complications like turbulence," says Paul Hayes, director of the London-based Ascend Worldwide fleet consultancy, which advises global airlines and air-transport companies. Without the black box, Hayes adds, the alerts could provide some answers, but not all

of them. "Correctly sequencing the cascade of technical reports the plane sent should give investigators clues into what was going wrong as it flew into difficult weather," he says. "At this point, the limited remains of the plane and its passengers recovered will probably be most helpful to investigators to determine which parts of the aircraft began breaking up and falling to the sea first."

Despite the paucity of evidence, the inquiry is still young — and past air-disaster inquests have successfully solved the causes of crashes even after long and confounding investigations. Most notable of those was the investigation into TWA Flight 800 from New York City to Paris, which exploded off Long Island, New York, in 1996. Though that plane's flight recorder was found, the blast caused it to stop operating along with the rest of the craft, rendering it basically useless. However, much of the plane's remains were recovered, and once a large part was reassembled, it allowed experts to conclude that the explosion was the result of an accidental mixture of air and fuel fumes that ignited in a central tank.

If enough of it is found, physical evidence can be as helpful as black boxes, or even more helpful, to air-disaster investigators in figuring out what went wrong. Painstaking examination of the wreckage of a New York City–Geneva Swissair flight that mysteriously crashed into the Atlantic in 1998 ultimately revealed a swiftly spreading electrical fire as the cause. Hayes also notes that after the Pan Am 747 explosion over Lockerbie, Scotland, in 1988, the discovery of metal fragments and an examination of the type of damage to one section of the plane pointed experts to a small bomb as the source of the calamity. Forensics has also cleared up questions in otherwise obvious accidents, such as the fuel-tank explosion of an Air France Concorde in 2000 that killed 113 people. During that thorough inquiry, experts not only discovered where and how the tanks caught fire but even located the origin: a metal strip that had fallen off a Continental Airlines plane, setting off a fatal chain of events when it burst the Concorde's tires at takeoff. (See [pictures of the Concorde](#).)

"Everyone knew what happened — there were photos of the Concorde on fire and blowing up — but examination of the remains allowed investigators to trace the entire sequence of events back to the accident's smoking gun," says Jean Guerry, a former pilot and current assistant director of the Bourget Air and Aerospace Museum, outside Paris. "The current Air France investigation will be much harder, since little debris has been recovered, and the material that has — because it floats — will only tell one part of the story at best. Getting the black box is very important."

That's why, with 20 or so days left before Flight 447's black box stops its sonar pinging, the French sub and two radar-equipped ships from the U.S. and the Netherlands have joined the hunt. Their job is daunting. "Experts in the TWA and Swissair inquiries did absolutely excellent work, but they recovered sea wreckage in depths of 100 to 130 ft. [30 to 40 m], while the Air France search is in waters of about 12,000 ft. [3,600 m]," says aeronautic engineer Favé. "With most of Flight 447 that far underwater, French investigators are at a real disadvantage — even if they do find the black box."

[See pictures of the Hudson plane crash.](#)

[See TIME's Pictures of the Week.](#)

Sponsored Links

Financing the Jihad

How extremist groups make their money. Get the story on FLYPMedia.com.
<http://www.FLYPMedia.com>

I Had High Blood Pressure

Now it's down to 120/75. Find out how I did it without drugs
www.resperate.com

[Buy a link here](#)

Business & Technology



Using Twitter & Facebook: Find a Job

[Apple Unveils the New iPhone »](#)
[New GM Ad: Restarting the Engines? »](#)
[Consumer Spending - Drag on Rebound? »](#)

2 FOR 1 OFFER



GIVE THE GIFT OF TIME