Urgent search narrows to find cause of EgyptAir crash

Bart Jansen, USA TODAY

Three weeks after EgpytAir Flight 804 plunged into the Mediterranean Sea, safety investigators hope they soon find wreckage showing whether a mechanical flaw or crew mistake — or terrorism — downed one of the most widely used planes worldwide.

Although initial speculation pointed to terrorism that brought down the Airbus A320, no evidence of an intentional crash has been found and no one has claimed responsibility, which is rare in terror cases.

"Nothing is more important than finding out what occurred," said Jim Hall, a former chairman of the National Transportation Safety Board, which investigates plane crashes. "We have millions of passengers flying daily on thousands of flights essentially in the dark as to whether the safety or security issue that brought this aircraft down could be a danger to the aircraft they're on."

The A320 family is a workhorse of the fleet, with 6,700 flying worldwide. The plane has been relatively safe, with 0.14 accidents involving fatalities per million departures, according to a Boeing study.

Search ships are closing in on the data recorders that will allow investigators to rule out terrorism as a cause.

Egyptian officials pledged Thursday to release a report of their findings one month after the May 19 crash. Chief investigator Ayman Al Moqqadem said his team is continuing to search for more debris and body parts for indicators of what caused the disaster.

"No bodies have been recovered so far, we've able only to locate small body parts. DNA tests are underway to identify the remains," said Al Moqqadem.

Determining the cause of the crash without the so-called black boxes is not possible because so few clues were left before the plane fell from the sky on May 19.

The pilots didn't call for help before plummeting into the Mediterranean with 66 people aboard the flight from Paris to Cairo. But mayday calls are uncommon in an aviation disaster, leaving the question of whether a catastrophic problem overwhelmed the crew or a bomb destroyed the plane abruptly.

The plane's maintenance system reported clues in the final minutes of flight of smoke in the plane's avionics and lavatory, and temperature changes in the cockpit windows.

Jeff Price, aviation-security professor at Metropolitan State University in Denver, said terrorism also was suspected initially in crashes of ValuJet flight 592 and TWA 800 in 1996, and Air France flight 447 in 2009. But other causes were found in those crashes, and Price leans toward a non-terror cause for EgyptAir.

"That said, there is some speculation out there that it was caused by terrorist activity, but whichever organization caused it wants to keep their methods secret so that they can repeat it," Price said. "That is a very scary notion and not completely without precedent."

Searchers found floating wreckage quickly after the crash. A week ago, the French ship Laplace detected signals from at least one of the plane's two recorders.

The pingers have batteries to last at least 30 days. But even if they fall silent, the search area has been narrowed so that sonar and video cameras could pinpoint the recorders.

EgyptAir's pingers should continue for at least another week.

The private company Deep Ocean Search's ship John Lethbridge is steaming to the scene with a remote-controlled underwater vehicle to search the ocean floor nearly 2 miles deep starting within days. The Comanche 6000 vehicle has video cameras and limbs to sample and recover objects.

"Even if they go out, it won't be long before they find them," Steven Marks, a Miami aviation lawyer at Podhurst Orseck, said of the pingers.

Pilots rarely call air-traffic controllers in a catastrophe because they are first trying to keep the plane aloft, he said. But that's why the recorders known as black boxes are crucial to understanding what happened, he said.

The voice recorder captures sounds in the cockpit, which will reveal what pilots were saying and other sounds, such as buttons being pushed or warnings if equipment is malfunctioning. The data recorder will have more than 1,000 types of data about how the plane was operating, such as how the engines were running or what position wing flaps, horizontal stabilizer and rudder were in.

"The most critical information of the universe of data in the accident is on the flight-data recorder and the cockpit-voice recorder, by far," Marks said.

The most tantalizing clues to emerge so far were messages from the plane's Aircraft Communications Addressing and Reporting System, which sends maintenance notes to Airbus during flight.

The final three minutes of messages mentioned cockpit windows and also reported "smoke lavatory smoke" and "avionics smoke."

If the messages signaled a fire in or near the cockpit, that could have at least distracted the pilots.

The EgyptAir messages are inconclusive, reaffirming the importance of the recorders.

"With the limited data available, the analysis of these messages does not allow to establish the sequence of events that would explain the accident," Airbus said in a statement.

Al Diehl, a former investigator for NTSB, speculated the fire could have been caused by electronics such as the lithium battery from an iPad that pilots use for flight information. If the fire spread to avionics, the pilots could have been rendered unable to fly the plane.

"This enigmatic data suggests that a fire may have initially occurred near the first officer's windows," Diehl said. "Of course, this is only one potential scenario and it is impossible to know exactly what happened until the wreckage and recorders are recovered and scientifically analyzed."

Contributing: Jacob Wirtschafter in Cairo for USA TODAY