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## **MISSING MAS FLIGHT: Descent of MH370 likely quick, catastrophic, say experts**

Karamjit Kaur

Whatever happened to Malaysia Airlines Flight MH370 in the wee hours of Saturday, aviation safety experts say it must have been quick and catastrophic.

This would explain why the pilots did not send out a distress signal, and why the Boeing 777-200 aircraft with 227 passengers and 12 crew members suddenly lost contact with air traffic control 50 minutes after it left Kuala Lumpur for Beijing.

More than two days after the plane disappeared, there is still no confirmation of its whereabouts, though all signs point to an ocean crash.

At this early stage of the probe, bad weather is an unlikely cause, given the clear skies at the time. But everything else from pilot error to structural and mechanical fault is possible, experts told The Straits Times.

Foul play cannot be ruled out either, said Paul Yap, head of Temasek Polytechnic's aviation department, which teaches topics such as air safety and security.

He said: "Right now, there are many questions and no answers."

If the plane broke apart midair, the debris field would be large. Otherwise, the plane probably broke up upon contact with the water.

Explaining how planes are tracked, Yap said that air traffic control centres can typically detect aircraft within a 250 nautical mile range.

When out of range, the plane's transponder, a device that emits signals, provides air traffic control with data on the aircraft's position, altitude and speed.

In this case, the transponder likely malfunctioned, either due to mechanical failure or human interference. This is why the plane fell off the radar.

But it still does not explain why the pilots did not send out a distress signal. Even if both engines suddenly failed, they would have had time to make an emergency call, experts pointed out.

Retired United States Federal Aviation Administration official Michael Daniel, 57, who has investigated several air accidents, said: "Pilots are trained to fly, navigate and communicate - in that order. That there was no distress signal does seem to indicate that the aircraft went into a rapid descent."

Given the sterling safety record of the B-777, which has flown for about two decades with just one fatal incident - the Asiana Airlines crash in San Francisco last year which killed three people - some say a design flaw is unlikely.

"It is one of the most reliable airplanes ever built," John Goglia, a former member of the

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United States National Transportation Safety Board, told Associated Press.

It does not mean MH370 did not encounter an aircraft-related issue, said Assistant Professor Terence Fan, an aviation expert from the Singapore Management University. "The design of the plane is one thing, but there is also the question of maintenance and operational issues.

"If a major structure of the plane fell off midair or an oxygen tank not properly stored burst in the cargo area, for example, it is possible the aircraft very quickly decompressed and could have knocked the pilots out."

Prof Fan added: "Reports have also emerged that part of the wing of the aircraft had an issue earlier, so we don't know if that could have caused a problem."

Investigators will also be looking at human factors, which account for about seven in 10 major commercial plane accidents.

This would include not just the experience and track records of the pilots, but also their response to an emergency during the flight, Daniel said.

It will take years before answers, if any, are found, experts said.

In the case of Air France Flight AF447, which crashed into the Atlantic Ocean in June 2009, investigators concluded three years later that a series of errors by the pilots and a failure to react effectively to technical problems caused the crash.

But not all investigations lead to answers, Yap said. Investigations into SilkAir Flight MI185, which plunged 9,144m into Palembang's Musi River in December 1997, were inconclusive.

"More than 16 years later, we still don't know what really happened," he said.