

## The Impossible

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**T**he news cycles this month were full of CCTV surveillance video footage of Air India flight AI-171, operating from Ahmedabad (AMD) to London Gatwick (LGW), that crashed on Thursday, June 12, killing all on board save one lone survivor, and 39 people on the ground. The death toll remains at 270. That horrific event was captured on video and the lone survivor was seen walking to an ambulance in other images and footage.

The aircraft achieved takeoff speed, rotated and climbed to about 625 feet while still over the runway. Then the Boeing 787 can be seen losing altitude while maintaining a slightly nose-up attitude. The flight crew issued a mayday call and reported a loss of power. The aircraft was airborne for about 30 seconds. It then hit a building, which was a hostel for medical students in training in the area, and exploded. The shocking footage showed a fireball erupting from the impact, as the aircraft was loaded with fuel for the flight to Gatwick.

The survivor, Vishwash Kumar Ramesh, a 40-year-old businessman from Leicester, U.K., was in seat 11A next to an emergency exit. Reports quote him as saying that the section of the aircraft he was seated in detached and came to rest on the ground floor of the hostel building. After unfastening his seat belt, he said he escaped through an opening where the emergency exit had broken apart. His brother was seated in a different row and did not survive.

"Thirty seconds after takeoff, there was a loud noise and then the plane crashed. It all happened so quickly," he said in local media reports. "When I got up, there were bodies all around me. I was scared. I stood up and ran. There were pieces of the plane all around me. Someone grabbed hold of me and put me in an ambulance and brought me to the hospital." Ramesh said that following the loud bang the aircraft began to have difficulty climbing.

Aircraft are designed to have redundancies upon redundancies to help avoid catastrophic events like this. However rare, it is not impossible that a double engine failure

occurred in this case. It is possible that a flock of birds could have flown into both of the engines causing that to happen. Having two engines fail is practically unheard of but did happen in the "Miracle on the Hudson" event in 2009 where birds were ingested and shut down both engines on that Airbus A320. But, if one engine had remained operational, the 787 would have been able to continue to climb and likely could have returned to the airport for landing.

Some experts questioned the flaps and slats settings, suggesting they were not set in the takeoff position. These high-lift devices change the shape of the wing and provide extra lift during the takeoff segment. If not set properly, the aircraft would most certainly have struggled to become airborne and climb, especially since it was a hot day and the aircraft was fully loaded with passengers. The flap theory has been discounted, however, due to the multiple checks that would have occurred in the flight deck by the crew and the warnings they would have received if they tried to takeoff without the proper settings. Alternatively, if the flaps and slats had been retracted too soon, that could also cause a loss of lift at a crucial time in the climb.

Regarding the engines, GE Aerospace's GEnx-1B, "The right engine was a new engine put in March 2025. The left engine was last serviced in 2023 and due for its next maintenance check in December 2025," N. Chandrasekaran, the airline's chairman said in a news report. "There are speculations about human error, engines, maintenance ... but AI-171 had a clean history," he said in **The India Times**. "There were no red flags or maintenance issues," he added. Most of Air India's 787s are serviced by Air India Engineering Services Limited (AIESL) or SIA Engineering, Chandrasekaran said at a press conference.

Experts say the ram air turbine (RAT) was likely deployed shortly after takeoff. Initial findings suggest the RAT was operating when the plane crashed, according to reports from **The Wall Street Journal** and other aviation news sources. The RAT is a backup power system that deploys automatically in cases of engine or electrical failure.

The aircraft's flight data recorder and cockpit voice recorder, though damaged, have been found. The analysis of those treasure troves of information will help illuminate what occurred. These critical flight parameters, as well as the cockpit voice recorder audio, will hopefully provide the answers to the mystery of what caused this aircraft to stop producing enough lift to climb out and will be the lynchpin of the accident investigation. Now all that is left to do is wait for the analysis of those black (orange) boxes to see if the mystery can be solved and we can learn how to prevent such an occurrence from happening again. **AM**



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