

Safety concerns raised in aftermath of Concorde crash

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Details are emerging concerning the crash of Air France Concorde Flight AF 4590 on Tuesday afternoon. As the plane left the ground at Charles de Gaulle airport near Paris for its scheduled flight to New York, the pilot reported to the control tower that one of the plane's four jet engines was defective. Eyewitnesses reported that flames were already visible from one wing as the plane was completing its takeoff.

The Concorde requires a faster takeoff speed than other commercial jets, and despite the malfunction of one engine it was too late for the pilot to prevent the plane taking off. With flames streaming from one wing, the plane wheeled around as the pilot sought to make an immediate emergency landing at an adjoining airfield. The fire in one of the two jet engines on the left side of the plane spread immediately, however, to the second engine, rendering the plane unmanoeuvrable.

Laden with over 80 tons of fuel for its transatlantic flight, the plane plunged to the ground and struck a hotel. All passengers and crew as well as four guests at the hotel were killed. Those near the scene likened the impact and explosion to that of an atomic bomb.

Rescue forces were barely able to identify plane parts, let alone the identity of passengers, most of whom were burnt beyond recognition. The only reliable method for identifying the victims is DNA comparisons, and police are currently collecting appropriate samples from relatives of the deceased.

Most of the passengers who died were German tourists who were to begin a cruise holiday when the plane landed in New York. Entire families perished, as did a number of pensioners who had saved over years for their holiday of a lifetime. One elderly woman victim was due to celebrate her seventieth birthday July 27. Shock and disbelief were the immediate reactions

of many of the relatives, who took part in memorial services held in both France and Germany

Although investigations are just under way and the jet's black boxes have still to be examined, the accident at the Paris suburb of Gonesse has raised a number of issues relating to air safety. Problems with the plane had been identified a day before the tragedy. At the end of its scheduled flight from New York to Paris the plane's pilot noted problems with the thrust reversal unit attached to one of the engines. Prior to takeoff Tuesday afternoon he insisted that the unit be changed. Takeoff was delayed for over an hour while a maintenance crew installed a unit from another Concorde.

As of now there is no direct evidence of a connection between the replaced thruster unit and the failure of one of the engines. But the hasty, last minute repairs recall a similar incident that took place two weeks ago. On that occasion an airbus of the Hapag-Lloyd fleet was forced to make an emergency landing in Vienna after taking off with a defective engine.

Concorde has been regarded as one of the safest passenger planes, with nearly twenty-five years of commercial service without casualties. Nevertheless, reports emerging in the aftermath of the crash have drawn attention to weaknesses in the construction of the plane that may have played a role in Tuesday's crash.

Concorde's unique takeoff pattern and rapid acceleration to supersonic speeds require enormous amounts of highly combustible fuel. Fully loaded, the plane carries 120 tons of fuel—four times more, per passenger, than that carried by normal commercial jets.

The Concorde has other unique features. Normal design regulations for commercial planes require an adequate distance separating two engines mounted on

the same wing. This is to prevent a fire or electrical fault in one engine from spreading immediately to the second. On the Concorde, the two engines on each side are actually built into the wing and directly adjoin one another.

A second unique feature, enabling the plane to fly beyond the speed of sound, is the attachment to each engine of an after-burner—normally a feature of supersonic fighter planes. The after-burner injects an extra dose of fuel into the turbine, enabling acceleration to supersonic speed at the flick of a switch.

Any damage to one of the plane's engines that interfered with the flow of fuel would have dramatic consequences for a Concorde in flight. The particular plane which came down on Tuesday was the oldest of the 13 Concorde which are still active.

In an article in the French newspaper *Parisien*, Bernard Thouanel, an author of books on aviation, reported that an “identical catastrophe” in virtually the same spot was previously prevented only at the last minute. In April of 1988 a defect was noticed in one of the engines of Concorde Flight AF 001 immediately after takeoff. In order to prevent an explosion, the pilot shut down the engine and then, so as to enable the plane to make an emergency landing, jettisoned 55 tons of fuel. In that case the plane was able to land safely and without casualties.

However, in 1973 six crew members and ten bystanders died when the prototype Russian supersonic plane Tupolev TU 114 crashed on a demonstration flight at the Le Bourget air show.

Tuesday's crash also raises concerns for the hundreds of thousands of people who live in the immediate vicinity of the airfield. The region to the west of Charles de Gaulle Airport is inhabited by over 400,000 people. The vast majority of planes fly over this area following takeoff.

Following partial privatisation (62 percent of Air France is owned by the French state, the rest is in private hands) and in the face of a series of strikes by airport personal, Air France Chairman Jean-Cyril Spinetta recently introduced an extensive cost reduction programme. As a result, Europe's third biggest airline was able to record its best ever revenues and profits for the year 1999/2000.

Despite Tuesday's tragedy, both Air France and British Airways are under considerable pressure to

return to “business as usual”. British Airways announced on Wednesday that it would be continuing its regular Concorde flights.



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