On July 25th, 2000 one of the Concorde supersonic jets crashed near Paris, France killing all 109 people onboard in addition to 4 on the ground. One of the aircraft tires disintegrated during take-off, rupturing a fuel cell. Fuel spilled into the intakes of engines 1 & 2, choking the air flow and shutting them down. The pilot was attempting to circle around and land, but the aircraft could not stay aloft with only two of four engines functioning.

There were 100 passengers onboard the aircraft and nine crew members. It was a chartered flight that was heading to New York as part of a 16-day cruise to South America.

The Concorde crashed because there wasn’t sufficient thrust to keep it aloft. The aircraft needed 3 of its 4 engines on take-off but only the two engines on the right side were functioning. The heat from the fire, which is not shown at this level of detail also affected the control surfaces of the left wing.

A piece of debris found on the runway after the Concorde accident matched the cut line on a piece of the exploded tire. Debris, titanium wear strip on runway

Runway 26R is x feet wide. The debris (FOD) not only had to be in the runway, it also had to be in the path of the tire. The piece of metal debris also had to be situated on its edge in just the precise way to cut into the tire.

The rupture in tank 5 was just slightly ahead of the intakes of engines 1 and 2 on the left side of the aircraft. The two engines experienced a flame-out because of fuel entering the intakes. The fuel pouring from tank 5 had also ignited.

Aircraft stall, loss of lift

Solution: Increased containment strength of tires, failure puncture limits.

Solution: Increased tire Service Factor of tires from 2X to 4X

Solution: Specify type of permissible repair & establish number of re-laminations allowed

Solution: Increased tire Service Factor of tires from 2X to 4X

Concorde Cause Map Poster
A detailed analysis of the Concorde accident with 120-Why questions and the recommended solutions from the BEA report. A valuable case study for reviewing risks within your group. Order a poster at www.thinkreliability.com (20" x 36")