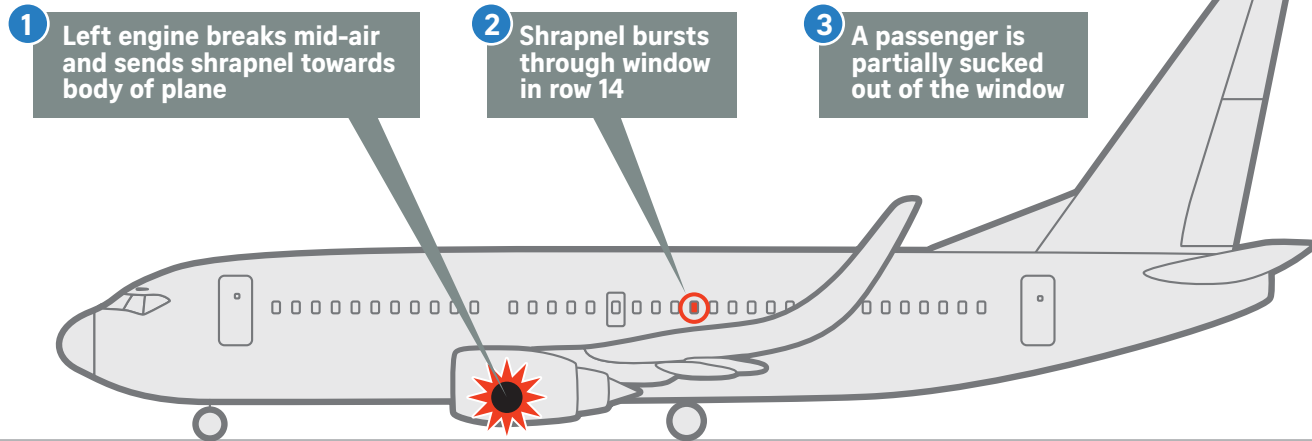


Engine explosion

Southwest Airlines Flight 1380 was flying at an altitude of 32,700 feet when the explosion occurred.

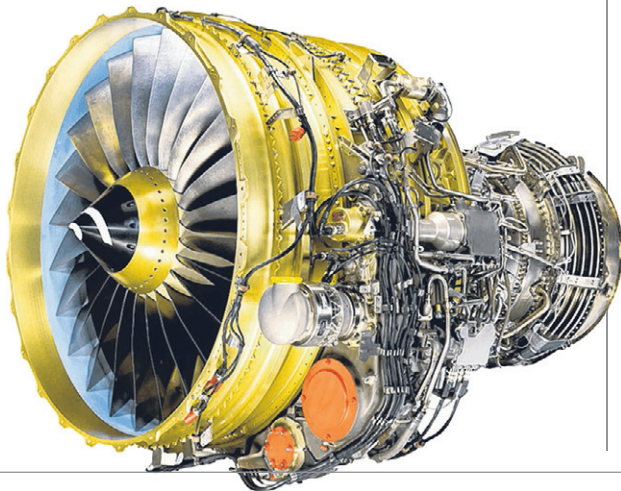
SOUTHWEST AIRLINES FLIGHT 1380



- Passengers: **144**
- Crew: **5**
- Explosion occurred about **20-30 minutes** after take-off
- Aircraft delivered to Southwest Airlines in 2000
- First fatal incident in US commercial aviation since 2009

CFM56-7B ENGINE

- Aircraft application: **Boeing 737 next generation family**
- Take-off thrust: **Up to 12,383kg**
- Fan diameter: **1.55m**



ENGINE INSPECTION

The Federal Aviation Administration will issue an Airworthiness Directive (AD) within the next two weeks that will require inspections of certain CFM56-7B engines. The directive will require an ultrasonic inspection of fan blades when they reach a certain number of takeoffs and landings. Blades that fail the inspection will have to be replaced.

SIMULATED "BLADE-OFF" TEST

- One of the more violent tests simulates an event when a single worn-out blade at the front of the engine snaps off from the shaft while spinning at an engine speed of over 3,000 RPM.
- To prevent the blade from turning into shrapnel at that speed and from wrecking the rest of the plane, a small explosive is attached to the base of the blade, separating it from the shaft.
- When the test goes well, the blade remains within the engine chamber and the casing diffuses the force of the impact.

AFTERMATH



Missing fan blade

Repeated stress at hub causes metal fatigue. Fan blade separates from hub in mid-air.

