

Fatigue Failure Examples

DeHavilland Comet. 1954.

- Prototype flew July 27, 1949.
- In service: May 2, 1952.
- Loss of life:
 - January 10, 1954. BOAC. Singapore to London. Near Elba. Mediterranean Sea. 35.
 - April 8, 1954. South African Airways – Rome to Johannesburg (via Cairo). Near Naples. Mediterranean Sea. 21.
- Catastrophic pressure cabin fatigue failure.
- Static design.
- Full-scale tests in water tank.
- Recovery and reconstruction.

Aloha Airlines. 1988.

- Loss of life: 1 flight attendant.
- Rivets attaching skin induce stress concentration.
- Cracks join.
- Section of cabin blows off at 24,000 ft.
- Plane lands in Maui.
- Aircraft written off.

Cosens Bridge, Montreal. 2003.

- Arch superstructure with suspended roadway.
- Environmental factors.
- Corrosion fatigue.

Miami Seaplane. Chalks Ocean Airways. December 19, 2005.

- Loss of life: 20.
- 58 years old.
- Cracks in wings.