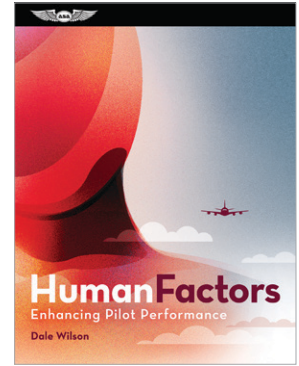


UPDATE

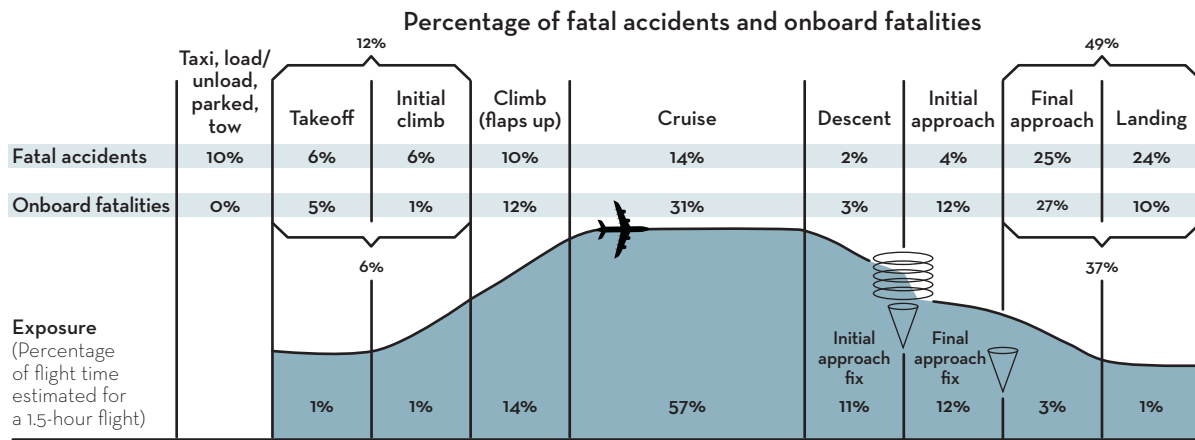
Human Factors: Enhancing Pilot Performance

This document revises the first edition of ASA-HUMAN, published in May 2020.

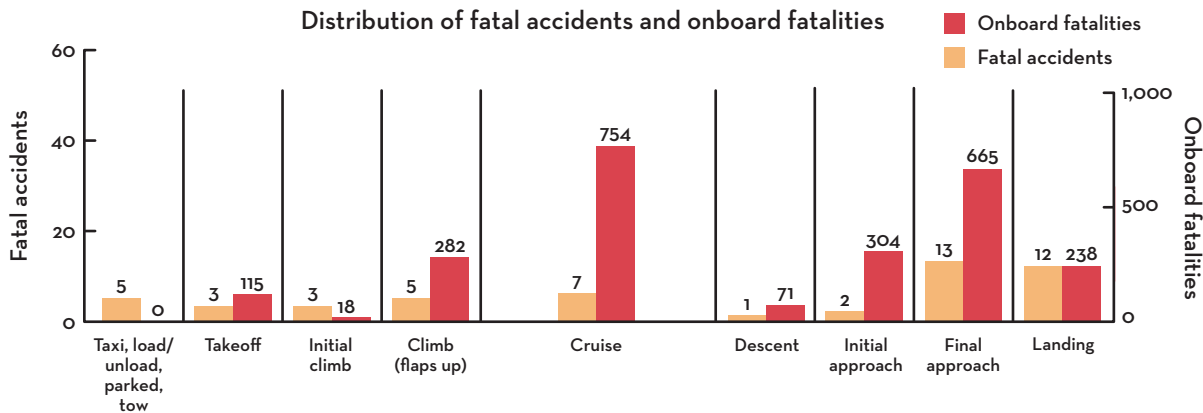


Page 13:

- Figure 1-5 is corrected as below:

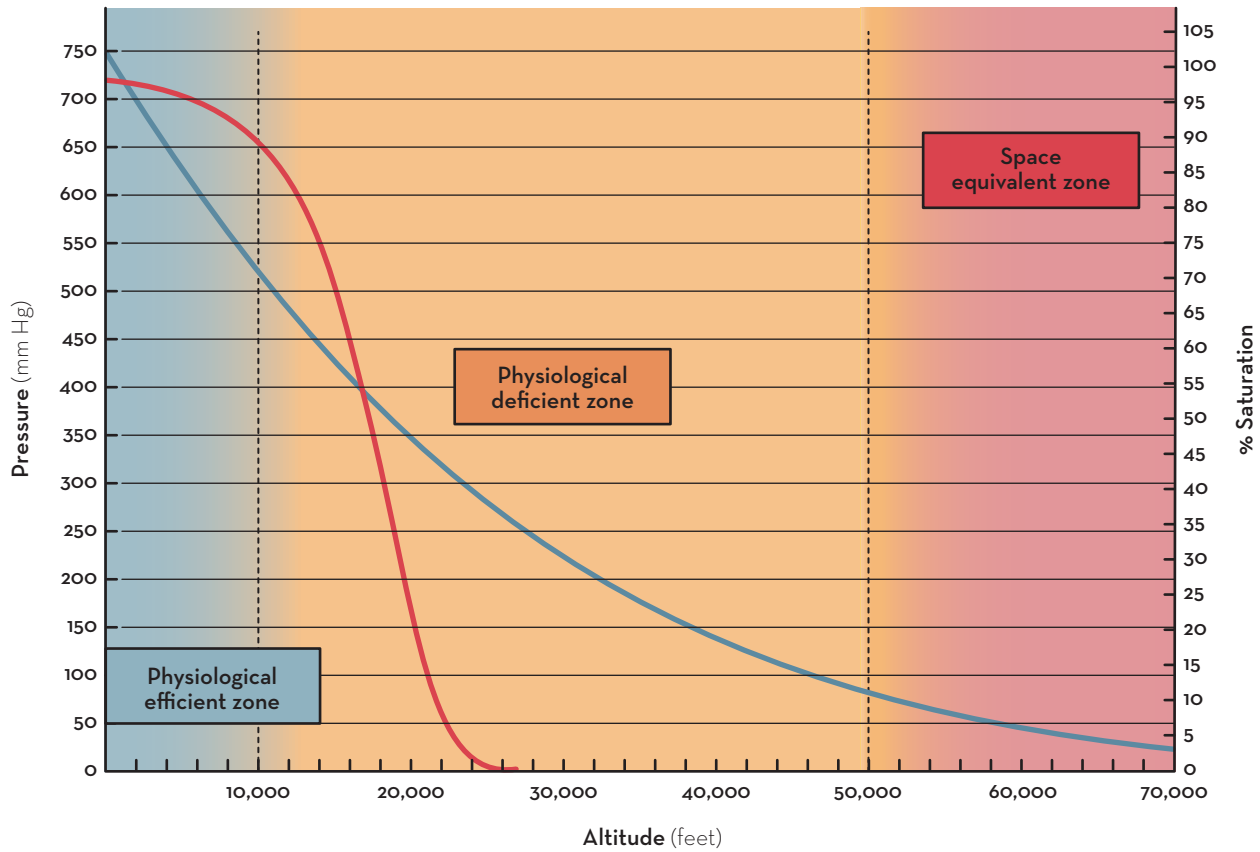


Note: Percentages may not sum to 100% due to numerical rounding.



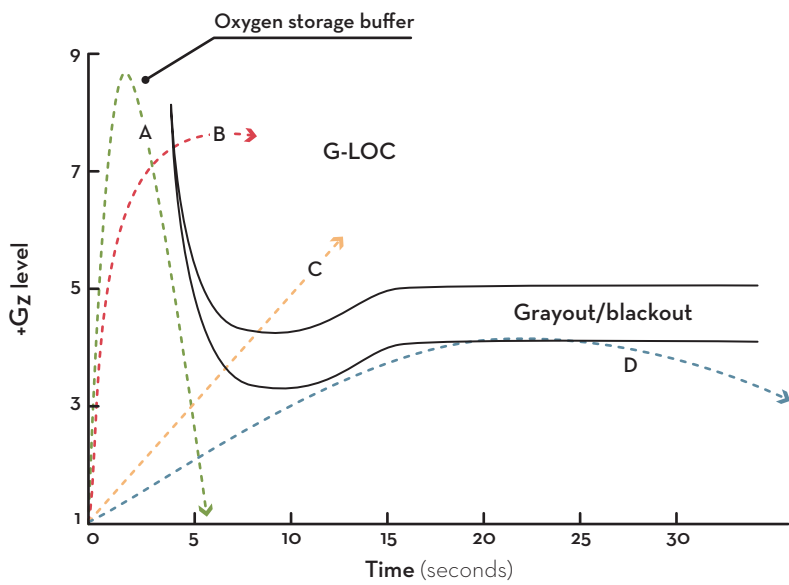
Page 62:

- Figure 4-7 is corrected as below:



Page 136:

- Figure 8-7 is corrected as below:



Page 151:

- *In the second paragraph under the subheading **The Leans**, the tenth sentence is corrected to read:*

Because the roll rate was less than 2 degrees per second, the slow roll was undetectable by the semicircular canals, and when the captain rolled the aircraft left (back towards wings-level) at a normal roll rate (above the detection threshold) the cupulae in the semicircular canals deflected creating a very strong sensation of entering a turn in the *opposite* direction.

Page 203:

- *Under the subheading **Tobacco**, reference to endnote 12 is added following the third sentence:*

Smoking harms almost every organ in the body, and besides contributing to the two highest overall causes of death in the U.S.—cardiovascular disease (heart attack, stroke) and cancer—it increases the risk of lung disease, emphysema, chronic bronchitis, diabetes, tuberculosis, eye disease, immune system problems, rheumatoid arthritis, and erectile dysfunction.¹²

Page 241:

- *Second paragraph, second sentence is corrected to read:*

In one of Kraft's simulator experiments, 12 senior Boeing instructor pilots flew visual approaches in black-hole conditions to an upsloping runway environment without the aid of an altimeter or glide path information from an ILS: eleven of them crashed short (by a few miles) of the runway!²⁷

Page 336:

- *Under the subheading **Airline/Commercial Flight Operations**, the third sentence is corrected to read:*

Other examples included rejecting a takeoff (RTO) above V_1 , failure to order a second deicing of the aircraft, and flying below minimum descent altitude/decision height (MDA/DH) without adequate outside visual references.

Page 388:

- *Under the subheading **Advocacy**, the third sentence is corrected to read:*

The NTSB concluded that both the FO and FE in the Portland accident either failed to fully comprehend the criticality of the fuel state, or if they did comprehend it, they failed to successfully communicate their concern to the captain.

Page 413:

- *Subheading is corrected to read: **Aircraft Handling States***