

Case #3: *BF Goodrich Air Force A7D Brake Problem*



By: Jacob Gonzalez, Anthony Sugars,
Vicente Martin, Azi Bendersky

5 rotor vs. 4 rotor



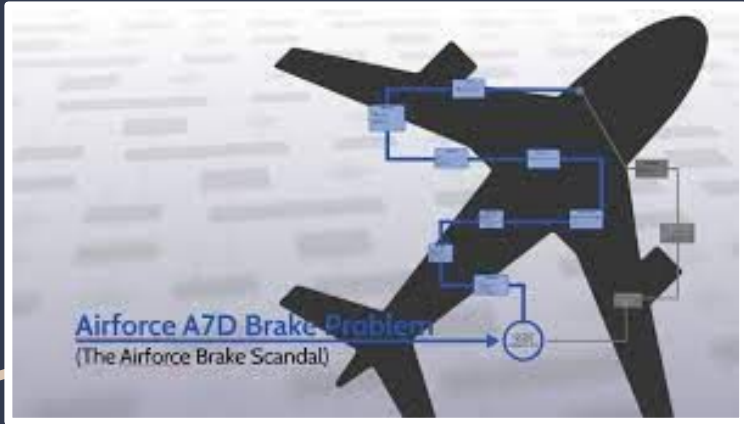
- Engineers at BF Goodrich had designed a new 4-rotor brake design
- This weighed significantly less than the usual 5-rotor design

What was the main disaster or problem presented in this case study?



- Engineers falsified brake reports in order to fulfill a contract.
- The engineers who tested the brakes were on a contract with the brake manufacturer.
- The brakes were not fully tested for the light attack plane and had rushed manufacturing not producing the best brakes for the aircraft.
- Ethically the engineers shouldn't have falsified brake testing and used more time to make a more reliable brake system.

What ethical issue led to the disaster or problem?



- A new, lighter design meant they had to go through extensive testing in too short of a time.
- Goodrich only had a full year for design and testing.
- The brakes needed to be tested before they were accepted
 - It was found that these test reports were falsified

What ethical issue led to the disaster or problem?

Continued



- Kermit Vandivier, an employee of B.F. Goodrich served as the whistleblower which led to a Congressional hearing to investigate this issue
 - Kermit Vandiver laid the basis for current ethical engineering reports with his whistleblower essay
- This case shows how engineers are responsible for their failures, especially when innovating
 - Innovation doesn't mean shortcuts and skipping procedures because they believe that innovating makes these things obsolete.

If the problem was solved how would the outcome be different?



- Goldrich would have lost their contract with LTV, as they would need more time, or to switch to a 5 rotor brake.
- The design manager, John Warren responsible for the initial design & Robert Sink, A7-D project manager
- Searle Lawson, a fresh out of college employee who performed testing on the brakes

Bibliography



Course Hero. “[Solved] The Goodrich A7-D Brake Case This case is one that is very often...” Course Hero,

<https://www.coursehero.com/tutors-problems/Psychology/11076297-The-Goodrich-A7-D-Brake-Case-This-case-is-one-that-is-very-often-use/>. Accessed 1 September 2022.

Online Ethics Center. “B. F. Goodrich Air Force A7D Brake Problem Case | Online Ethics.” Online Ethics Center,

<https://onlineethics.org/cases/engineering-ethics-cases-texas-am/b-f-goodrich-air-force-a7d-brake-problem-case>. Accessed 1 September 2022.