Landing Gear Failure On Landing Accident Of Aircraft

A New York Times bestseller For millions of people, travel by air is a confounding, uncomfortable, and even fearful experience. Patrick Smith, airline pilot and author of the popular website www.askthepilot.com, separates fact from fallacy and tells you everything you need to know: • How planes fly, and a revealing look at the men and women who fly them • Straight talk on turbulence, pilot training, and safety. • The real story on delays, congestion, and the dysfunction of the modern airport • The myths and misconceptions of cabin air and cockpit automation • Terrorism in perspective, and a provocative look at security • Airfares, seating woes, and the pitfalls of airline customer service • The colors and cultures of the airlines we love to hate COCKPIT CONFIDENTIAL covers not only the nuts and bolts of flying, but the grand theater of air travel, from airport architecture to inflight service to the excitement of travel abroad. It's a thoughtful, funny, at times deeply personal look into the strange and misunderstood world of

commercial flying. "Patrick Smith is extraordinarily knowledgeable about modern aviation...the ideal seatmate, a companion, writer and explorer." —Boston Globe "Anyone remotely afraid of flying should read this book, as should anyone who appreciates good writing and great information." —The New York Times, on ASK THE PILOT.

Most aviation accidents are attributed to human error, pilot error especially. Human error also greatly effects productivity and profitability. In his overview of this collection of papers, the editor points out that these facts are often misinterpreted as evidence of deficiency on the part of operators involved in accidents. Human factors research reveals a more accurate and useful perspective: The errors made by skilled human operators - such as pilots, controllers, and mechanics - are not root causes but symptoms of the way industry operates. The papers selected for this volume have strongly influenced modern thinking about why skilled experts make errors and how to make aviation error resilient.

Aircraft Accident Reports

ATR72, ZK-MCY Landing Gear Failure, Nelson 9 April 2017

Everything You Need to Know About Air Travel: Questions, Answers, and Reflections
Former Military High-Performance Aircraft
Principles and Practices
Handbook of Materials Failure Analysis with Case Studies from the Aerospace and Automotive Industries

Nose Landing Gear Failure on Landing, Exploits Valley Air Services, Beechcraft 1900D, C-FEVA, Gander International Airport, Newfoundland and Labrador, 20 April 2016

On the 25th anniversary of the accident, reconstructs the crash of United Airlines Flight 232, which hit the runway in a huge fireball after experiencing engine failure and loss of all flight controls and still had 185 survivors. 20,000 first printing.

Briefs of Accidents, U.S. General Aviation; Small Fixed-Wing Aircraft, Minor Or No Injury

A Report

Advisory circular

The Design of Aircraft Landing Gear

Human Error in Aviation

This publication provides safety information and guidance to those involved in the certification, operation, and maintenance of high-performance former military aircraft to help assess and mitigate safety hazards and risk factors for the aircraft within the context provided by Title 49 United States Code (49 U.S.C.) and Title 14 Code of Federal Regulations (14 CFR), and associated FAA policies. Specific models include: A-37 Dragonfly, A-4 Skyhawk, F-86 Sabre, F-100 Super Sabre, F-104 Starfighter, OV-1 Mohawk, T-2 Buckeye, T-33 Shooting Star, T-38 Talon, Alpha Jet, BAC 167 Strikemaster, Hawker Hunter, L-39 Albatros, MB-326, MB-339, ME-262, MiG-17 Fresco, MiG-21 Fishbed, MiG-23 Flogger, MiG-29 Fulcrum, S-211. DISTRIBUTION: Unclassified; Publicly Available; Unlimited. COPYRIGHT: Graphic sources: Contains materials copyrighted by other individuals. Copyrighted materials are used with permission. Permission granted for this document only. Where applicable, the proper license(s) (i.e., GFD) or use requirements (i.e., citation only) are applied.

The F/A-18A-D fleet has been experiencing cracked brackets on the right main landing gear (MLG) wheel well hydraulic 2A (HYD 2A) pressure supply line. Investigations revealed that hydraulic pressure spikes in the HYD 2A supply line may be a contributing factor to the bracket failure.

Some bracket failures have led to HYD 2A supply line failures. F/A-i 8E/F testing determined that landing gear circuit breaker resets and improper gear retractions following an emergency gear extension caused pressure spikes. A suspected but unproven cause of pressure spikes is the first engine start of the day. For this test, a production F/A-18A-D landing gear control unit (LGCU) was modified at NADEP North Island to accept a restrictor within the emergency port of the valve. The Boeing and Northrop Grumman developed restrictors were designed to control emergency spool movement and eliminate pressure spikes in the HYD 2A supply line. Three restrictors were designed with increasing levels of restriction (2000, 5500, and 9000 lohm). The elimination of pressure spikes is expected to reduce or eliminate the hydraulic line bracket failures that have been occurring in the USN/USMC fleet and FMS aircraft.

Statistical Review and Résumé of Accidents, U.S. Air Carriers

Briefs of Accidents

Briefs of Accidents Involving Amateur/home Built Aircraft, U. S. General Aviation

Reanalysis of Multiple-wheel Landing Gear Traffic Tests

U.S. Civil Aviation

NTSB-AMM.

"The Exploits Valley Air Services Beechcraft 1900D (registration C-FEVA, serial number UE-126), operating as Air Canada Express flight EV7804, was on a scheduled passenger flight from Goose Bay International Airport, Newfoundland and Labrador, to Gander International Airport, Newfoundland and Labrador. At 2130 Newfoundland Daylight Time, while landing on Runway 03, the aircraft touched down right of the centreline and almost immediately veered to the right. The nosewheel struck a compacted snow windrow on the runway, causing the nose landing gear to collapse. As the aircraft's nose began to drop, the propeller blades struck the snow and runway surface. All of the left-side propeller blades and 3 of the right-side propeller blades separated at the blade root. A portion of a blade from the right-side propeller penetrated the cabin wall. The aircraft slid to a stop on the runway. All occupants on board--14 passengers and 2 crew members--were evacuated. Three passengers sustained minor injuries. The aircraft was substantially damaged. There was no post-impact fire. There were insufficient forward impact forces to automatically activate the 121.5 MHz emergency locator transmitter. The accident occurred during the hours of darkness"--Summary, title page.

Handbook of Materials Failure Analysis: With Case Studies from the Aerospace and Automotive Industries provides a thorough understanding of the reasons

materials fail in certain situations, covering important scenarios, including material defects, mechanical failure as a result of improper design, corrosion, surface fracture, and other environmental causes. The book begins with a general overview of materials failure analysis and its importance, and then logically proceeds from a discussion of the failure analysis process, types of failure analysis, and specific tools and techniques, to chapters on analysis of materials failure from various causes. Later chapters feature a selection of newer examples of failure analysis cases in such strategic industrial sectors as aerospace, oil & gas, and chemicals. Covers the most common types of materials failure, analysis, and possible solutions Provides the most up-to-date and balanced coverage of failure analysis, combining foundational knowledge, current research on the latest developments, and innovations in the field Ideal accompaniment for those interested in materials forensic investigation, failure of materials, static failure analysis, dynamic failure analysis, fatigue life prediction, rotorcraft, failure prediction, fatigue crack propagation, bevel pinion failure, gasketless flange, thermal barrier coatings Presents compelling new case studies from key industries to demonstrate concepts Highlights the role of site conditions, operating conditions at the time of failure, history of equipment and its operation, corrosion product sampling, metallurgical and electrochemical factors, and

morphology of failure
Landing Gear Failure - Capsizing
Approach
Cockpit Confidential
Briefs of Accidents by Make and Model of Aircraft, U.S. General Aviation
Briefs of Accidents Involving Corporate/executive Aircraft, U.S. General Aviation
Piper PA31-310 Navajo ZK-NPR, landing gear failure to extend, Napier Aerodrome, 24 June 2002. 02-008

Growth of aircraft to over a million pounds, with the need for many wheels to support such aircraft, has focused attention on the unduly conservative aspect of present equivalent single wheel load (ESWL) methods when applied to many grouped wheels. The assembly of all multiple-wheel accelerated traffic test data for use in reexamining ESWL methods provided an indication that the earliest multiple-wheel tests likely were treated extremely conservatively during their analysis some 40 years ago. Accordingly, these early tests (reported in TM 3-349) were subjected to a reexamination. The reexamination confirmed that the initial analysis was quite conservatively carried out. With the benefit of the added 40 years of research findings and experience with in-service pavements a less

conservative analysis can now be made and accepted with confidence. This report presents the reanalysis carried out and the revised pavement behavior indicated. Aircraft loads, Distress failure, Pavements, Design criteria, Flexible pavement, Performance data.

The Design of Aircraft Landing Gear is designed to guide the reader through the key principles of landing system design and to provide additional references when available. Many problems which must be confronted have already been addressed by others in the past, but the information is not known or shared, leading to the observation that there are few new problems, but many new people. It is intended to share much of the existing information and provide avenues for further exploration. The design of an aircraft and its associated systems, including the landing system, involves iterative loops as the impact of each modification to a system or component is evaluated against the whole. It is rare to find that the lightest possible landing gear represents the best solution for the aircraft: the lightest landing gear may require attachment structures which don't exist and which would require significant weight and compromise on the part of the airframe structure design.

Studies of Shuttle Orbiter Arrestment System

The Correlation of Aircraft Take-off and Landing Characteristics with Airport Size

Brief format, U.S. civil aviation

F/A-18A/B/C/D Main Landing Gear Control Unit Hydraulic 2A Supply Line Pressure Spikes and Emergency Port Restrictor Ground and Flight Tests Evaluation

U.S. General Aviation : Small Fixed-wing Aircraft Minor Or No Personnel Injury

Flight 232

This is the only book available today that covers military and commercial aircraft landing gear design. It is a comprehensive text that will lead students and engineers from the initial concepts of landing gear design through final detail design. The book provides a vital link in landing gear design technology from historical practices to modern design trends, and it considers the necessary airfield interface with landing gear design. The text is backed up by calculations, specifications, references, working examples.

The naval aviation safety review.

Aero Charter of Ottawa, Cessna 310Q C-GAEQ, Chibougamau Airport, Québec, 12 February 1996
Air Georgian Limited Beechcraft 1900D, C-GORF Calgary International Airport, Alberta, 12 July 2016
Crash Nondestructive Test Program Eliminates Possible Serious Failure in B-52 Landing Gear Assemblies for Sac
A Story of Disaster and Survival
Brief format, U.S. civil and foreign aviation
Briefs of Accidents, United States Civil Aviation

The second volume in a series comprising a reliable source of failure analysis case studies for engineering professionals. Volume 1 (1992) was reviewed in the April 1993 SciTech Book News . Volume 2 contains 131 new case studies in the areas of transportation component failures (aircraft-aerospace/g

Abnormal landing scenarios of the X-38 prototype Crew Rescue Vehicle (CRV) were modeled for three different cases involving non-deployment of landing gear with an explicit dynamic nonlinear finite element code, MSC/DYTRAN. The goal of this research was to develop models to predict the probability of crew injuries. The initial velocity conditions for the X-38 with chute deployed were 10 ft/s vertical and 57 ft/s longitudinal velocity. An MSC/NASTRAN structural model was supplied by JSC and

was converted to a dynamic MSC/DYTRAN model. The MSC/NASTRAN model did not include seats or floor structure; thus, the acceleration of a lumped-mass attached to the bulkhead near each assumed occupant location was used to determine injury risk for each occupant. The worst case for injury was nondeployment of all gears. The mildest case was nondeployment of one main gear. Although a probability for minor injury was predicted for all cases, it is expected that the addition of energy-absorbing floor structure and seats would greatly diminish the probability of injury.Fasanella, Edwin L. and Lyle, Karen H. and Pritchard, Jocelyn I. and Stockwell, Alan E.Langley Research CenterCOMPUTERIZED SIMULATION; FLIGHT SIMULATION; X-38 CREW RETURN VEHICLE; RESCUE OPERATIONS; LANDING GEAR; FAILURE; DYNAMIC MODELS; NONLINEARITY; FINITE ELEMENT METHOD; NASTRAN; STRUCTURAL ANALYSIS; INJURIES; RISK; PREDICTIONS

Nose Landing Gear Failure to Extend

Dynamic Considerations in the Failure on Multiple Wheel Landing Gear

United States Congressional Serial Set

Civil Airworthiness Certification

Enterlake Air Services Ltd. (Selkirk Air), Beech Aircraft Corporation, 3T Beech 18 C-FSFH, Bradburn Lake, Manitoba, 05 June 1995

Handbook of Case Histories in Failure Analysis, Volume 2

On 12 July 2016, an Air Georgian Limited Beechcraft 1900D (serial number UE-330, registration C-GORF) was operating as Air Canada Express flight GGN7212 from Lethbridge Airport, Alberta, to Calgary International Airport, Alberta, with 2 crew members and 15 passengers on board. When the landing gear was selected down for the approach into Calgary, the flight crew observed that there was no gear-safe indication for the nose landing gear. The flight circled east of Calgary for about an hour while the pilots attempted to rectify the problem. An emergency was declared. The aircraft landed at 0720 Mountain Daylight Time, during daylight hours, with the nose gear in a partially extended position. No fire occurred, and there were no injuries. This investigation report includes factual information, analysis, findings, and safety action.--Includes text from document.

Aviation Occurrence Report

Nose Landing Gear Failure on Landing, Exploits Valley Air Services, Beechcraft 1900D, C-FEVA, Gander International Airport, Newfoundland and Labrador, 20 April 2016

Study of Safety of Aircraft Having Single Dual-geared Power Plant

Failure Analysis of the Aircraft Landing Gear Component

Landing Gear Failure

Nose Landing Gear Failure During Landing, Air Creebec Inc., Embraer

EMB-110P1 C-FPCU, Cochrane, Ontario, 31 August 2008