

## Aaib Bulletin No 1 2005 Ref Ew G2004 03 10 Category 1 1

*Enhancing Surgical Performance: A Primer in Non-Technical Skills explains why non-technical skills are vital for safe and effective performance in the operating theatre. The book provides a full account, with supporting empirical evidence, of the Non-Technical Skills for Surgeons (NOTSS) system and behavioural rating framework, which helps identify*

*Modelling and Managing Airport Performance provides anintegrated view of state-of-the-art research on measuring andimproving the performance of airport systems with consideration ofboth airside and landside operations. The considered facets ofperformance include capacity, delays, economic costs, noise,emissions and safety. Several of the contributions also examinepolicies for managing congestion and allocating sparse capacity, aswell as for mitigating the externalities of noise, emissions, andsafety/risk. Key features: Provides a global perspective with contributing authors fromEurope, North and South America with backgrounds in academia,research institutions, government, and industry Contributes to the definition, interpretation, and sharedunderstanding of airport performance measures and relatedconcepts Considers a broad range of measures that quantify operationaland environmental performance, as well as safety and risk Discusses concepts and strategies for dealing with themanagement of airport performance Presents state-of-the-art modelling capabilities and identifiesfuture modelling needs Themed around 3 sections – Modelling Airport Performance,Assessing Airport Impacts, and Managing Airport Performance andCongestion Modelling and Managing Airport Performance is available reference for researchers and practitioners in the globalair transportation community.*

*Undetected human error in aircraft maintenance creates a latent error condition that can contribute to undesirable outcomes. Individual Latent Error Detection (I-LED) acts as an additional system safety control that helps an engineer recall past errors through environmental cues. This book addresses a gap in the human factors research and current safety strategies by exploring the nature and extent of I-LED and its benefit to safety resilience. The book will describe the I-LED concept using a systems perspective and propose practical interventions to be integrated within existing safety systems as an additional control to enhance resilience against human performance variability. Provides a new view of total safety based on enhanced resilience provided through the integration of I-LED interventions within existing safety systems Offers an in-depth exploration of the phenomenon of spontaneous recall of past event, leading to error detection and recovery of latent error conditions Discusses the application of Human Factors methods to conduct real-world observations in maintenance environments Describes the application of the systems view of human error to applied research Presents cost versus benefit analysis of safety interventions targeting latent error conditions*

*When Peter took charge of the flight deck of the 777 and took off from Beijing airport, there was nothing to suggest that this trip would be anything other than a routine flight of the sort he had made so many times before. It was not until moments before landing that anything went wrong. Coming in to Heathrow Airport, the plane suffered inexplicable loss of power to both engines, and it was suddenly likely that the plane would plough into a built-up area outside the airport, with the loss of all lives on board. Peter tells us in graphic detail his thoughts and actions when he managed to help save the plane at the last moment thanks to a flash of inspiration that led him to change the position of the wing flaps, which appeared to gain the vehicle enough precious time to make it over the perimeter fence and land on the grass, short of the runway. For both Maria and Peter, their lives following the crash have resulted in experiences that they never would have expected to have happened. There isn't a handbook with rules to follow after a crash so the subsequent aftermath was faced with events that could have been handled better from all sides, which lead to Maria and Peter having to find strength inside them that they had never needed before. A little more than a year later, they have used these strengths to begin a new chapter in their lives; starting with leaving British Airways and celebrating a second chance to enjoy life. But there are still nights when they find themselves awake, crying about what could have happened on that fateful day.*

*Aircraft Accident Investigation*

*The Law of Unmanned Aircraft Systems*

*The Boeing 737 Technical Guide*

*Individual Latent Error Detection (I-LED)*

*Handling Complexity in Real-World Operations*

*Modelling and Managing Airport Performance*

The book provides a data-driven approach to real-world crew resource management (CRM) applicable to commercial pilot performance. It addresses the shift to a systems-based resilience thinking that aims to understand how worker performance provides a buffer against failure. This book will be the first to bring these ideas together. Taking a competence-based approach offers a more coherent, relevant approach to CRM. The book presents relevant, real-world examples of the concepts and outlines a change in thinking around pilot performance and data interpretation that is overdue. Airlines, pilots and aviation industry professionals will benefit from the insights into organisational design and alternative approaches to training. FEATURES Approaches CRM from a competence-based perspective Uses a systems model to bring coherence to CRM Includes a chapter on using blended learning and virtual reality to deliver CRM Features research on work/life balance, morale, pilot fatigue and link to error Operationalises 'resilience engineering' in a crew context In this book, Dr. Andras Soberster reviews the science behind high altitude flight. He takes the reader on a journey that begins with the complex physiological questions involved in taking humans into the "death zone." How does the body react to falling ambient pressure? Why is hypoxia (oxygen deficiency associated with low air pressure) so dangerous and why is it so difficult to 'design out' of aircraft, why does it still cause fatalities in the 21st century? What cabin pressures are air passengers and military pilots exposed to and why is the choice of an appropriate range of values such a difficult problem? How do high altitude life support systems work and what happens if they fail? What happens if cabin pressure is lost suddenly or, even worse, slowly and unnoticed? The second part of the book tackles the ambient problems of flying in the upper atmosphere. What loads does stratospheric flight place on pressurized cabins at high altitude and why are these difficult to predict? What determines the maximum altitude an aircraft can climb to? What is the 'coffin corner' and how can it be avoided? The history of aviation has seen a handful of airplanes reach altitudes in excess of 70,000 feet - what are the extreme engineering challenges of climbing into the upper stratosphere? Flying high makes very high speeds possible - what are the practical limits? The key advantage of stratospheric flight is that the aircraft will be 'above the weather' - but is this always the case? Part three of the book investigates the extreme atmospheric conditions that may be encountered in the upper atmosphere. How high can a storm cell reach and what is it like to fly into one? How frequent is high altitude 'clear air' turbulence, what causes it and what are its effects on aircraft? The stratosphere can be extremely cold - how cold does it have to be before flight becomes unsafe? What happens when an aircraft encounters volcanic ash at high altitude? Very high winds can be encountered at the lower boundary of the stratosphere - what effect do they have on aviation? Finally, part four looks at the extreme limits of stratospheric flight. How high will a winged aircraft ever be able to fly? What are the ultimate altitude limits of ballooning? What is the greatest altitude that you could still bail out from? And finally, what are the challenges of exploring the stratospheres of other planets and moons? The author discusses these and many other questions, the known knowns, the known unknowns and the potential unknown unknowns of stratospheric flight through a series of notable moments of the recent history of mankind's forays into the upper atmospheres, each of these incidents, accidents or great triumphs illustrating a key aspect of what makes stratospheric flight aviation at the limit.

Taking an integrated, systems approach to human performance issues on the flight deck of the modern airliner, this book describes the inter-relationships between the various application areas of human factors, recognising that the human contribution to the operation of an airliner does not fall into neat pigeonholes. The relationship between areas such as pilot selection, training, flight deck design and safety management is continually emphasised. It also affirms the upside of human factors in aviation and avoids placing undue emphasis on when the human component fails.

Ernsting's Aviation and Space Medicine applies current understanding in medicine, physiology and the behavioural sciences to the medical challenges and stresses that are faced by both civil and military aircrew, and their passengers, on a daily basis. The fifth edition of this established textbook has been revised and updated by a multi-disciplinar

*Aviation Contaminated Air Reference Manual*

*Former Military High-Performance Aircraft*

*A Competence-based Approach for Airline Pilots*

*Software for Dependable Systems*

*Parliamentary Debates (Hansard).*

Providing a detailed examination of the issues that affect the long term health of aircrew, cabin crew and passengers, Air Travel and Health offers guidance to engineers designing aircraft in the difficult field of legislation and product liability. Examining the facts, anecdotes and myths associated with health and travel, Seabridge and Morgan draw balanced conclusions on which the aircraft operations and design communities can act to provide cost-effective solutions. The authors present a useful reference for aircrew, regulatory authorities, engineers and managers within the aerospace industry, and medical and human factors specialists, as well as an informative resource for undergraduate and graduate students. One way or another he made his way to a local church spire in the village half during the 1950s, a loud crack shook the night and the night sky turned to an orange glow, lighting the way for him. Shrugging his shoulders, the author made his way through the village, and in the distance he heard an explosion as a jet aircraft hit the ground. It was a common enough occurrence in the village of Iton; RAF Merryfield was always losing aircraft and on a regular basis. Fifty years later, and in an effort to put his indifference right, the author began to investigate air crashes in and around Somerset. What he discovered appalled him at the sheer scale of it all. He now shares his findings of Somerset air crashes since 1945 with you.

Aviation safety is so well-developed that individual organizations cannot rely on the number of accidents as useful indicators of the safety level of their operation. Adequate control of risks requires the availability of a method to determine the level of safety as a function of the current status and of proposed or expected changes tot the aviation system. Aviation safety policy plans have therefore proposed the development of causal risk models. Unfortunately, these failed to specify or even describe such models other than in the most general of terms. Causal model development was stated as a goal in itself, without consideration of how such a model should be used. The objective of this work is to clarify these issues by comparing user requirements with the performance that can be delivered by various modeling techniques. The publications answers the question what causal risk modeling adds to current safety management approaches and what the criteria are for ensuring it makes a successful contribution to safety.

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-10 Mohawk, T-2 Buckeye, T-33 Shooting Star, T-38 Talon, Alpha Jet, BAC 167 Strikemaster, Hawkair Hunter, L-39 Albatross, MB-326, MB-339, ME-262, MIG-17 Fishbed, 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., GFDL or use requirements (i.e., citation only) are applied.

*Enhancing Surgical Performance*

*Bayesian Methods in the Search for MH370*

*International Law, International Relations and Diplomacy*

*Sport Parachute Jumping*

*Ernsting's Aviation and Space Medicine SE*

*Causal Risk Models of Air Transport*

This book demonstrates how nonlinear/non-Gaussian Bayesian time series estimation methods were used to produce a probability distribution of potential MH370 flight paths. It provides details of how the probabilistic models of aircraft flight dynamics, satellite communication system measurements, environmental effects and radar data were constructed and calibrated. The probability distribution was used to define the search zone in the southern Indian Ocean. The book describes particle-filter based numerical calculation of the aircraft flight-path probability distribution and validates the method using data from several of the involved aircraft's previous flights. Finally it is shown how the Reunion Island Flaperon debris find affects the search probability distribution.

*Wings Over Somerset/Aircraft Crashes since the End of World War II/The History Press*

This edited textbook is a fully updated and expanded version of the highly successful first edition of Human Factors in Aviation. Written for the widespread aviation community - students, engineers, scientists, pilots, managers, government personnel, etc., HFA offers a comprehensive overview of the topic, taking readers from the general to the specific, first covering broad issues, then the more specific topics of pilot performance, human factors in aircraft design, and vehicles and systems. The new editors offer essential breath of experience on aviation human factors from multiple perspectives (i.e. scientific research, regulation, funding agencies, technology, and implementation) as well as knowledge about the science. The contributors are experts in their fields. Topics carried over from the first edition are fully updated, several by new authors who are now at the fore of the field. New material - which represents 50% of the volume - focuses on the challenges facing aviation specialists today. One of the most significant developments in this decade has been NextGen, the Federal Aviation Administration's plan to modernize national airspace and to address the impact of air traffic growth by increasing airspace capacity and efficiency while simultaneously improving safety, environmental impacts and user access. NextGen issues are covered in full. Other new topics include: High Reliability Organization Perspective, Situation Awareness & Workload in Aviation, Human Error Analysis, Human-System Risk Management, LOSA, NOSS and Unmanned Aircraft System. Comprehensive text with up-to-date synthesis of primary source material that does not need to be supplemented New edition thoroughly updated with 50% new material and full coverage of NextGen and other modern issues Instructor website with test bank and image collection makes this the only text offering ancillary support Liberal use of case examples exposes readers to real-world examples of dangers and solutions This is a story of aviation, risk and the heart of the pilot. Four out of five fatal aircraft accidents are due to human error; three out of five to pilot error. This book examines the technical aspects of these issues from the viewpoint of one of the UK's most experienced aviation cardiologists. It spans the end of the Second World War through teaching cardiology in aviation on behalf of the International Civil Aviation Organisation (ICAO) worldwide, via a history of powered flight, time in the cadet force, a flying scholarship on a Tiger Moth, training to be a doctor, later a cardiologist, and owning a series of aircraft. Michael Joy was appointed as cardiologist to the Civil Aviation Authority (CAA) in 1974 to assist the regulator in the development of standards of cardiologial fitness. Error, risk and accident causation are introduced in the context of various fatal accidents. In this stimulating and highly informative autobiography, Michael looks back at his time with the ICAO and CAA, drafting cardiologial standards for Europe and worldwide travel to spread the message, including the Khyber pass, an aircraft factory in the Indonesian jungle and the slave island of Goree in Senegal. Safety is no accident and history is its judge.

*Air travel and health*

*Mechanisms in the Chain of Safety*

*Untersuchung von PIO-Tendenzen bei plötzlichen Umschaltungen in der Flugdynamik*

*Risk, the Heart and the Air Pilot*

*Human Factors in Aviation*

*Aeronomatics at the Limit*

How should we organize our selection or training procedures? In what way can a flight crew mediate problems? How are we to understand reported errors? Mechanisms in the Chain of Safety presents recent findings in aviation psychology, bringing fresh insights to such questions. Aviation psychologists study personnel selection and training; they evaluate the management of flight operations, and ultimately they analyse the things that went wrong. The strong interrelation between these components allows us to talk about a chain of safety. This volume appraises this chain of safety by considering the mechanisms that determine its effectiveness - input mechanisms, coping mechanisms and control mechanisms. Each contribution discusses a component of the chain while the book as a whole emphasizes and illustrates that understanding the connections between these parts is essential for the future. By addressing these issues the book leads to further considerations such as how mistakes are linked to training and how coping mechanisms should help us to understand errors and accidents. Mechanisms in the Chain of Safety will appeal to aviation professionals (human factors experts, safety managers, pilots, ATCOs, air navigation service providers, etc.) and academics, researchers, graduates and postgraduates in human factors and psychology. Although primarily written for the aviation industry, this book will also be of interest to other high-risk dynamic activities that face similar challenges: the need to present effective and safe outcomes to the public in general and the stakeholders in particular.

Cockpit Resource Management (CRM) has gained increased attention from the airline industry in recent years due to the growing number of accidents and near misses in airline traffic. This book, authored by the first generation of CRM experts, is the first comprehensive work on CRM. Cockpit Resource Management is a far-reaching discussion of crew coordination, communication, and resources from both within and without the cockpit. A valuable resource for commercialand military airline training curriculum, the book is also a valuable reference for business professionals who are interested in effective communication among interactive personnel. Key Features
\* Discusses international and cultural aspects of CRM
\* Examines the design and implementation of Line-Oriented Flight Training (LOFT)
\* Explains CRM, LOFT, and cockpit automation
\* Provides a case history of CRM training which improved flight safety for a major airline

Bisher wurden Kopplungsphänomene des Gesamtsystems Pilot-Flugzeug (Piloteninduzierte Schwingungen, PIO) nach einer Umschaltung im Flugregelungssystem nur unzureichend systematisch untersucht. In den letzten Jahren traten jedoch einige Vorfälle in der zivilen Luftfahrt auf, die zeigten, dass schwere Vorfälle entstehen können, wenn Umschaltungen der Flugregelungsgesetze involviert sind. Die vorliegende Arbeit befasst sich mit der Entwicklung einer Versuchsmethodik zur gezielten Untersuchung von PIO-Tendenzen bei plötzlichen Umschaltungen in der Flugdynamik (PIO-Kategorie III). Außerdem wird untersucht, ob Umschaltungen von Flugregelgesetzen, die die Flugdynamik und die Flugeigenschaften ändern, Ursache für PIO-Tendenzen sein können. Hierzu wurde eine Datenbank mit Flugdynamiken eines Transportflugzeuges während des Landeanflugs erzeugt. Diese Dynamiken wurden sowohl mit existierenden Kriterien als auch durch Piloten in einem Festsitzsimulator bezüglich ihrer PIO-Tendenzen und Flugeigenschaften beurteilt. Aus der Datenbank wurden verschiedene Umschaltkonstellationen generiert, deren dynamisches Verhalten vor und nach der Umschaltung in einem definierten Zusammenhang standen. Während einer Versuchskampagne in einem Festsitzsimulator mit mehreren Linien- und Testpiloten wurden diese Konstellationen bewertet. Dabei kam neben den üblichen Bewertungskalen auch eine eigens für diese Arbeit modifizierte Variante der Transient Failure Rating Scale zum Einsatz. Die Versuche zeigten, dass die entwickelte Methodik in der Lage war, PIO-Tendenzen aufzuzeigen. Es ließ sich zeigen, dass Umschaltkonstellationen existieren, bei denen PIO-Tendenzen auftreten, obwohl die Flugdynamiken nach der Umschaltung als PIO-frei galten. Nähere Untersuchungen zeigten, dass eine Destabilisierung des geschlossenen Regelkreises Pilot-Flugzeug dafür verantwortlich war, deren Ursache in der Adaptionsfähigkeit eines Piloten an eine neue modifizierte Flugdynamik liegt. Es werden Empfehlungen zur Vorhersage von PIO-Tendenzen bei Umschaltungen formuliert, die in weiterführenden Untersuchungen validiert werden könnten.The interaction between pilot and aircraft (pilot-induced oscillation, PIO) after a mode transition in the flight control system has not been sufficiently and systematically investigated until now. Some recent severe incidents of transport aircraft highlighted that severe accidents can occur, if transitions inside the flight control system are involved. This thesis deals with the development of an experimental method to specifically investigate PIO tendencies of sudden changes in the aircraft dynamics (PIO category III). In addition, this thesis investigates, whether mode transitions in flight control laws, which modify flight dynamics and handling qualities, cannot only be a trigger for PIO tendencies but also their cause. For this purpose a database with different aircraft dynamics of a transport aircraft during the landing approach phase has been created. Its dynamics have been rated by existing handling qualities criteria and by human pilots in a fixed-base simulator. From this database several switching constellations have been generated with a defined relationship between the dynamic behaviour before and after the transition. During a test campaign in a fixed-base simulator with airline and test pilots the different constellations have been evaluated. Besides the usual rating scales a modified transient failure rating scale has been used for the evaluation of the transitions. The simulator campaign demonstrated that the proposed method is able to expose hidden PIO tendencies. Furthermore, it has been demonstrated that switching constellations exist that show PIO tendencies, although the aircraft dynamics after the mode transition was supposed to be PIO resistant. Closer investigations attributed this to the destabilization of the closed-loop pilot-vehicle system, which is caused by pilot's capabilities to adapt to a new and modified flight dynamics. Different recommendations have been given to predict PIO tendencies of mode transitions. They should be validated in future studies. Supersedes edition published January 2011 (ISBN 9780117925205); this edition incorporates revisions to date, July 2011. Mandatory Permit Directives summarise the mandatory actions that are required to be complied with by UK owners and operators of Permit to Fly Aircraft.

For Aircraft Operating on a Permit to Fly

Marine Technology and SNAME News

The Multitasking Myth

Thirty Seconds to Impact

Mandatory Permit Directives

Journal of the Royal Aeronautical Society

Aerospace Law and Policy Series, Volume 11 In recent years, five industries have grown so prodigiously as that of unmanned aircraft systems (UAS) and, as a result, developments in national, regional, and international law and policy are being initiated and implemented. This new edition of the definitive survey and guide, first published in 2016, reflects the expansion of this sector and the importance placed on it by a diverse range of stakeholders, as well as the enlarged regulatory and policy landscape. In addition to updating many of the original chapters, the second edition covers new topics and moves away from a purely introductory book to a more detailed and critical compendium. Authorship has also been extended beyond the original scope of contributors, which originally centred around those affiliated with Leiden University's Institute of Air and Space Law, and now includes additional experts from all around the world, each of whom explores both already existing rules and proposals coming from national, regional and international levels. As well as broadened discussions on such fundamental legal issues as insurance, financing, liability, accidents investigation, privacy, cyber security, stakeholder organisations and industry standards, the second edition takes into account major recent developments in such areas as the following: applicability and relevance of international regulatory instruments; coming into force of the European Union (EUAS-related laws; evolution of different States' national law; public safety (e.g., design, production, operation and maintenance); development of unmanned traffic management systems; commercial operations, including urban air mobility (e.g., flying taxis, cargo delivery, high-altitude activities); and developments in defence and security (e.g., dual-use, counter-UAS industry to combat illegal use). As in the first edition, a representative cross section of national laws is included, covering twenty-one different jurisdictions. This fully updated edition not only synthesises and clarifies the complex body of international, regional and national UAS-related law, but also provides expert insight into trends and areas of concern for government stakeholders. Without a doubt, it will be of immeasurable value to lawyers, relevant governmental and non-governmental agencies, aviation law scholars, and strategic planners in the wider aviation and transport industries.

Higher education is undergoing innovative transformations to respond to our urgent needs. The change is hastened by the global pandemic that is currently underway. The 9th International Conference on Interactive, Collaborative, and Blended Learning: Visions and Concepts for Education 4.0 was conducted in an online format at McMaster University, Canada, from 14 to 15th October 2020, to deliberate and share the innovations and strategies. This conference's main objectives were to discuss guidelines and new concepts for engineering education in higher education institutions, including emerging technologies in learning; to debate new conference format in worldwide pandemic and post-pandemic conditions; and to discuss new technology-based tools and resources that drive the education in non-traditional ways such as Education 4.0. Since its beginning in 2007, this conference is devoted to new learning approaches with a focus on applications and experiences in the fields of interactive, collaborative, and blended learning and related new technologies. Currently, the ICBL conferences are forums to exchange recent trends, research findings, and disseminate practical experiences in collaborative and blended learning, and engineering pedagogy. The conference bridges the gap between 'pure' scientific research and the everyday work of educators. Interested readership includes policymakers, academics, educators, researchers in pedagogy and learning theory, school teachers, industry-centric educators, continuing education practitioners, etc.

This is an illustrated technical guide to the Boeing 737 aircraft. Containing extensive explanatory notes, facts, tips and points of interest on all aspects of this hugely successful airliner and showing its technical evolution from its early design in the 1960s through to the latest advances in the MAX. The book provides detailed descriptions of the systems, internal and external components, their locations and functions, together with pilots notes and technical specifications. It is illustrated with over 500 photographs, diagrams and schematics. Chris Brady has written this book after many years developing the highly successful and informative Boeing 737 Technical Site, known throughout the world by pilots, trainers and engineers as the most authoritative open source of information freely available about the 737.

Despite growing concern with the effects of concurrent task demands on human performance, and research demonstrating that these demands are associated with vulnerability to error, so far there has been only limited research into the nature and range of concurrent task demands in real-world settings. This book presents a set of NASA studies that characterize the nature of concurrent task demands confronting airline flight crews in routine operations, as opposed to emergency situations. The authors analyze these demands in light of what is known about cognitive processes, particularly those of attention and memory, with the focus upon inadvertent omissions of intended actions by skilled pilots. The studies employed several distinct but complementary methods: ethnographic observations, analysis of incident reports submitted by pilots, and cognitive task analysis. They showed that concurrent task management comprises a set of issues distinct from (though related to) mental workload, an area that has been studied extensively by human factors researchers for more than 30 years. This book will be of direct relevance to aviation psychologists and to those involved in aviation training and operations. It will also interest individuals in any domain that involves concurrent task demands, for example the work of emergency room medical teams. Furthermore, the countermeasures presented in the final chapter to reduce vulnerability to errors associated with concurrent task demands can readily be adapted to work in diverse domains.

*Aircraft Maintenance Incident Analysis*

*Air Travel and Health*

*An update, report with evidence, 1st report of session 2007-08*

*Comparison of User Needs and Model Capabilities*

*A Systems Perspective*

*Contemporary Issues in Human Factors and Aviation Safety*

*The Aviation Contaminated Air Reference Manual is the first ever fully referenced 800+ page summary of the complete aircraft contaminated air issue in which crews and passengers have been exposed to oil and hydraulic fumes in aircraft cabins. The reference manual, which is the result of nearly ten years of research, is aimed at policy makers, doctors, scientists, air accident investigators, engineers, crews, passengers, airline and union representatives, politicians and media involved or interested in any aspect of the contaminated air debate on commercial and military aircraft.*

*The focus of Software for Dependable Systems is a set of fundamental principles that underlie software system dependability and that suggest a different approach to the development and assessment of dependable software. Unfortunately, it is difficult to assess the dependability of software. The field of software engineering suffers from a pervasive lack of evidence about the incidence and severity of software failures; about the dependability of existing software systems; about the efficacy of existing and proposed development methods; about the benefits of certification schemes; and so on. There are many anecdotal reports, which-although often useful for indicating areas of concern or highlighting promising avenues of research-do little to establish a sound and complete basis for making policy decisions regarding dependability. The committee regards claims of extraordinary dependability that are sometimes made on this basis for the most critical of systems as unsubstantiated, and perhaps irresponsible. This difficulty regarding the lack of evidence for system dependability leads to two conclusions: (1) that better evidence is needed, so that approaches aimed at improving the dependability of software can be objectively assessed, and (2) that, for now, the pursuit of dependability in software systems should focus on the construction and evaluation of evidence. The committee also recognized the importance of adopting the practices that are already known and used by the best developers; this report gives a sample of such practices. Some of these (such as systematic configuration management and automated regression testing) are relatively easy to adopt; others (such as constructing hazard analyses and threat models, exploiting formal notations when appropriate, and applying static analysis to code) will require new training for many developers. However valuable, though, these practices are in themselves no silver bullet, and new techniques and methods will be required in order to build future software systems to the level of dependability that will be required.*

*Update to Date Coverage of Every Aspect of Commercial Aviation Safety Completely revised edition to fully align with current U.S. and international regulations, this hands-on resource clearly explains the principles and practices of commercial aviation safety—from accident investigations to Safety Management Systems. Commercial Aviation Safety, Sixth Edition, delivers authoritative information on today's risk management on the ground and in the air. The book offers the latest procedures, flight technologies, and accident statistics. You will learn about new and evolving challenges, such as lasers, drones (unmanned aerial vehicles), cyberattacks, aircraft icing, and software bugs. Chapter outlines, review questions, and real-world incident examples are featured throughout. Coverage includes:
• ICAO, FAA, EPA, TSA, and OSHA regulations
• NTSB and ICAO accident investigation processes
• Recording and reporting of safety data
• U.S. and international aviation accident statistics
• Accident causation models
• The Human Factors Analysis and Classification System (HFACS)
• Crew Resource Management (CRM) and Threat and Error Management (TEM)
• Aviation Safety Reporting System (ASRS) and Flight Data Monitoring (FDM)
• Aircraft and air traffic control technologies and safety systems
• Airport safety, including runway incursions
• Aviation security, including the threats of intentional harm and terrorism
• International and U.S. Aviation Safety Management Systems
Consultant eye surgeon, Eric Arnott, was one of the original pioneers of small-incision surgery. He was the first to perform modern Phaco surgery in Europe and designed lens implants that have restored the sight to millions of patients. The word autobiography is simply insufficient to describe this book, which is a remarkable testament to the life, works and marriage of a remarkable man. The book details the original invention of the lens implant by Harold Ridley, who Eric worked with in his early years of medical training. It goes on to follow the development of small-incision Phaco surgery, instigated by Charlie Kelman, and the disinterest and contempt held by the peers of these ophthalmologic pioneers. The author describes every advance in this field of ophthalmology in fascinating detail. The importance to Eric of religion, spirituality, family life and helping others less fortunate than himself is reinforced in this enthralling and at times very amusing read. Arnott draws you into his narrative, rousing thoughts of disbelief as you are compelled to continue reading, each new chapter and event in his life proving as fascinating as the last. Entertaining and illuminating, A New Beginning in Sight provides a detailed history of ophthalmology and is essential reading for ophthalmologists, other specialists and non-specialists alike.*

*Aircraft Crashes since the End of World War II*

*Crew Resource Management Training*

*Commercial Aviation Safety, Sixth Edition*

*A Primer in Non-technical Skills*

*Visions and Concepts for Education 4.0*

*Upon a Trailng Edge*

Every issue of Ashgate's Human Factors and Aerospace Safety: An International Journal publishes an invited, critical review of a key area from a widely-respected researcher. To celebrate a successful first three years of the journal and to make these papers available to a wider audience, they have been collated here into a single volume. The book is divided into three sections, with articles addressing safety issues in flight deck design, aviation operations and training, and air traffic management. These articles reflect the state of current research within a practical context and present a potential future research agenda. Contemporary Issues in Human Factors and Aviation Safety will appeal to both professionals and researchers in aviation and associated industries who are interested in learning more about current issues in flight safety.

This report is a follow-up to an earlier report published in 2000 (HLP 121-I, session 1999-2000, ISBN 978010442005), on air travel and health. That report acted as a stimulus to further research into the health of air crew and passengers, and led to a broader examination of such issues. The report also led to the setting up of the Aviation Health Working Group in 2001, and later the Aviation Health Unit, in 2003, within the Civil Aviation Authority (CAA), which acts as a focal point for aviation health in the UK. In this report the Committee sets out the current situation, and still finds issues that remain of concern, particularly the risk to air travellers of venous thromboembolism (VTE). A WHO study is to examine VTE risk for individuals with existing risk factors, and the Committee urges the Government to continue to support this project. The Committee also believes that further investigation into the effects of fumes on pilots and others should be continued. The Committee has set out a number of recommendations, including: that jet lag should be studied as a confounding effect of DVT; that the Government should explore ways to increase the research capacity in aviation health; that the CAA should implement the recommendations of its own research into aircraft seating standards, and increase the minimum seat pitch to at least 28 inches; that the Government should also review the level of air passenger duty levied on "premium economy" seating; also that the Government and airlines advise passengers on the proven benefits of good hygiene in the reduction of disease transmission, and that as part of their contingency plans airlines that are flying from areas affected by a pandemic, should provide bacterial wipes to passengers; that the Government and the APU work together with airlines and others in providing consistent air travel advice to passengers on the risks associated with self-mediating with the intention of preventing DVT.

Dated 6 August 1990. Includes 3 folded diagrams

This book covers all aspects of aircraft accident investigation including inflight fires, electrical circuitry, and composite structure failure. The authors explain basic investigation techniques and procedures required by the National Transportation Safety Board (NTSB) and the International Civil Aviation Organization (ICAO). There are also chapters on accident analysis, investigation management, and report writing. The appendices include the Code of Ethics and Conduct of the International Society of Air Safety Investigators.

*A New Beginning in Sight*

*Report on the Accident to Boeing 747-121, N739PA at Lockerbie, Dumfriesshire, Scotland on 21 December 1988*

*House of Commons official report*

*Civil Airworthiness Certification*

*Making Systems Safer*

