

# Aviation Human Factors Industry News

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*From the sands of Kitty Hawk, the tradition lives on.*

Hello all,

To subscribe send an email to: [rhughes@humanfactorsedu.com](mailto:rhughes@humanfactorsedu.com)

In this weeks edition of *Aviation Human Factors Industry News* you will read the following stories:

★NTSB Releases Safety Video on Mis-rigged Controls

★Frequency of general aviation accidents still troubling for NTSB

★Vectors for Safety

★A Just Culture – The Foundation of Any Successful Safety Management System

★Man Fatally Injured By Propeller In Alaska

★Pilots and Mechanics Must Communicate after Critical Maintenance

★Faulty software installed to Airbus A400M plane crash

★First-ever NTSB video report on a plane crash

★And Much More

## NTSB Releases Safety Video on Mis-rigged Controls



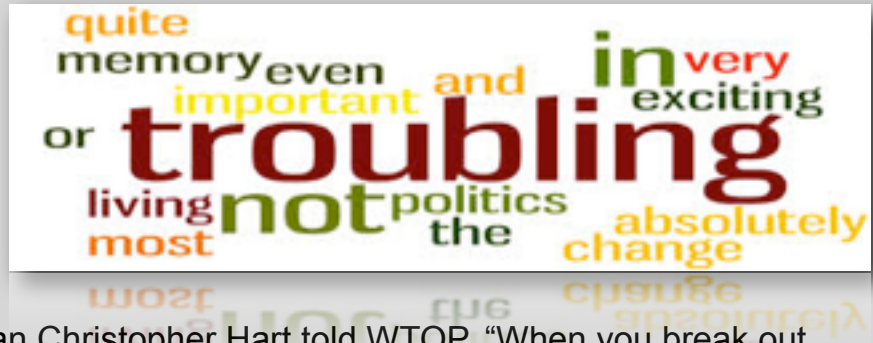
The NTSB released a safety video on flight-control issues stemming from mis-rigging [that can occur](#) during maintenance checks. It focuses on a single-engine Cessna that the two pilots were able to land successfully, despite having reversed controls. The video includes an interview with the [highly experienced](#) mechanic who performed the work on the single-engine Cessna. He shares his perspectives on how the [maintenance error](#) occurred and offers advice to other aircraft maintenance professionals on how they can avoid a similar mistake. The video also highlights a number of other fatal air transport accidents in which the controls were mis-rigged.

<https://youtu.be/AsPA3u7JSFQ>

## Frequency of general aviation accidents still troubling for NTSB

Transportation safety has been generally improving across the board except in one area: general aviation.

“We’re troubled that the general aviation safety trend has been flat for few years,” NTSB Chairman Christopher Hart told WTOP. “When you break out the personal flying from the business flying, the business flying is improving which means the [personal flying is getting worse](#) which is troubling.” Hart addressed the topic with attendees of the Aircraft Owners and Pilots Association (AOPA) Homecoming Fly-in Saturday morning in Frederick, Maryland.



“We are the accident investigators, so we are there when something goes wrong,” Hart explained. “That’s why we inform the process of improvement is because we see what actually went wrong as opposed to what might go wrong. We’ve seen it and been there up close and personal with what really did go wrong.”

The NTSB investigates about 1,500 general aviation accidents every year, whereas the agency can go years at a time without a commercial aviation accident. The biggest cause of death in general aviation crashes [is from loss of control, generally some form of aerodynamic stall](#).

“It basically comes down to the familiarity of the pilot with the machine, the situation, and being ready for the unexpected,” noted Hart.

The NTSB chairman also said [there are other factors](#) that pilots need to consider to understand their risk when they takeoff.

“How current are you, how long has it been since you last flew, how good is your training, are you ready to go into that weather you are expecting to encounter, do you even know what the weather is you expect to encounter?”

Hart said that pilots need to know the weather conditions, whether that is thunderstorms rumbling through in the summer or ice in the winter, to help reduce their risk of a crash.

He also recommended shoulder belts for all on board rather than lap belts to reduce the chance of death just in case something does go wrong.

## **Vectors for Safety**



### **Free Webinar for Coveted Basic Knowledge-1 Credit!**

I will be conducting a free webinar titled, "[Help! My Brain is Trying to Kill Me!](#)" on Thursday, June 25. The webinar will begin at 9:00 PM Eastern Daylight Time which is of course, 8:00 PM CDT, 7:00 PM MDT, 6:00 PM PDT, 0100 UTC. I know that this is not a convenient time for many folks in the western half of the country, but I will run the same event at a later date at a time that will work better for the folks out west.

This webinar fulfills the Aeronautical Decision Making requirement (Basic Knowledge-1) in the Wings program. That is usually the most difficult credit to obtain. The program is FAA Accredited Activity: BRIGHTSPOT-ADM-1.

Click [here](#) for more information and the webinar registration link.

Please visit my website, [genebenson.com](http://genebenson.com) for more safety information including free online courses, many are valid for FAA Wings credit.

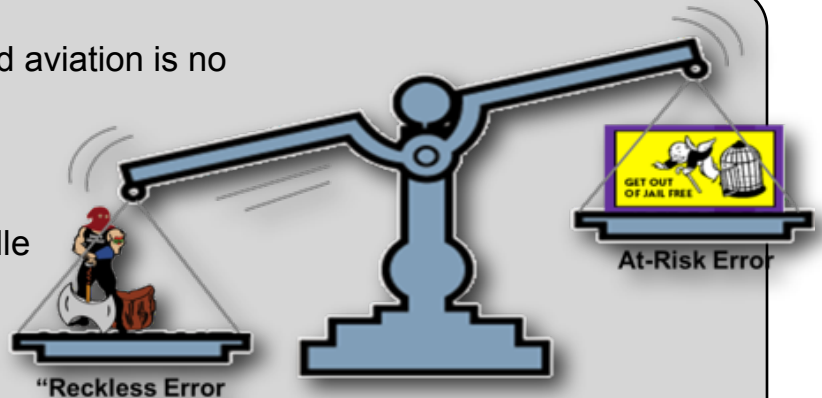
# A Just Culture – The Foundation of Any Successful Safety Management System

Submitted by Gordon Dupont

With permission from *D.O.M. Director of Maintenance* magazine

Every industry has its own culture and aviation is no different. Our industry is known as being very unforgiving for any human errors made; especially if the error involved damage to an aircraft. Giselle Richardson, a close psychologist friend of mine was the keynote speaker at our first conference on Maintenance Errors and Their

Prevention in 1995. In her speech she gave us a lot to think about however, one thing she said that has stuck in my mind to this day was: “Only the mafia with their cement boots has a harsher discipline policy (than aviation)”. Thinking on my many years in aviation I believe that she was right. I can recall going to work one day and asking where Joe was. It turns out he was fired on my days off and not one person knew why. It was later rumored that he had left his flashlight up behind the instrument panel which later had fallen out on the Captains foot during pushback from the gate, resulting in a delay. Was it “Cement boots” for Joe? Let’s look at some of the cultures that can be found in our industry:



## **The era of the “Blame” Culture.**

This culture has been very common throughout history.

It is based on the “eye for an eye” way of thinking.

It is seen to be doing something about the problem.

It seems to “solve” the problem as the instigator of the problem is no longer there to do it again.

It does not determine or solve the root causes of the problem

It does cause persons to try to hide their errors

It creates a lose-lose situation and will doom a SMS to failure



### **The era of the “It Depends” Culture**

No one knows what will happen when an error is made

It could depend on the mood of the boss that day

It likely will depend in on how expensive the error is and how much media attention it gets

It fails to determine the root causes and results in an “It wasn’t me” culture much like the blame culture.

It is a lose-lose situation and will also doom a SMS to failure.

### **The era of the “No Blame” culture**

This enables an organization to learn from the error and root causes to be found.

It lessens the chances of a repeat error being made.

The data helps find trends and system causes

However it interferes with one’s “sense of justice.” I.E. That feeling that he/she “just got away with murder.” (Came to work drunk and drove the service truck into the side of an aircraft is ok?)

It makes no provision for reckless behavior.

A “form” of this (Just Culture) is a must for a successful SMS

### **What is a Just Culture?**

It is where everyone feels that the “guilty party” was treated fairly and justly after they made a human error or reported a near miss.

It clearly spells out that all errors will be treated as “Learning Outcomes” and except for cases of reckless behavior, no discipline will be administered.

It is a win-win situation and is the foundation of any successful SMS.

### **What is an Administrative Policy?**

An administrative policy is one that spells out exactly how an error or reported near miss will be administrated or handled. It will inform all exactly where that “line in the sand” is when it comes to discipline. The administrating of discipline will become a small part of the overall policy.

The policy is based the following suppositions:

- a) Errors are not made on purpose (if they were it would be sabotage);
- b) The person making the error is the least likely to ever make it again;
- c) Disciplining a person, usually does nothing positive to reduce a repeat of the error if it was not intentional;
- d) The policy will become the heart of your SMS.

It has been determined that 95 to 97% of the time discipline will not be required to help prevent a repeat of the error.

Based on work done by David Marx, the father of Just Culture, the following are the three types of error that must be dealt with.

### **1. Normal Error - No Culpability = Learning Outcome (Console)**

Normal errors are the result of being human and/or the system the person is working in. It is the unintentional forgetting to do something or doing something wrong, thinking it was right. There is no intention to make the error and later may think to yourself: "How could I have been so stupid." For example. Forget to replace the oil cap after checking the oil level. Install a component wrong because you have never had the training (system error) and the manual is ambiguous but it seems right.

The end result is a "Learning Outcome" in which the knowledge gained is used to devise ways to prevent it from occurring again to anyone.

About 80% of all errors will fall into this category.

### **2. At-Risk Error - No culpability (this time) = Learning Outcome (Coach)**

At-Risk error are the result of the person knowing what he/she is doing is wrong but sees no bad outcomes and often positive rewards for the action. The key is the person fails to see or realize the risk in what they are doing. Norms (the way we do things around here) often result in an at-risk error.

Remember last month's "Mickey Mouse and Donald Duck "pencil whipping" for the tire pressures on the DC8s? That was a norm that ultimately resulted in the loss of 261 lives.

Because the persons were not aware of the risk in what they were doing they would receive one “get out of jail free” and be coached to realize the danger or risk. Should the person repeat the error when they now realize the risk, the error falls into the reckless error category.

The classic norm that was at-risk has to be American Airlines DC-10 Flight 191 out of Chicago that lost the number one engine on take-off. Two hundred and seventy three persons would die as a result of maintenance using a forklift to remove and reinstall the wing mounted engines with the pylon attached instead of separating the engine from the pylon before removing the pylon. This was an At-risk error as what they were doing was a violation but they failed to see the risk but had the positive reward of saving 22 man-hours per engine. To my knowledge, no person was ever charged (disciplined) for this At-risk error.

### **3. Reckless Error - Culpable = Learning Outcome (Discipline)**

Reckless error is the result of an action that the person knows has a significant and unjustifiable risk but chooses to do it anyway with a conscious disregard of the possible consequences. The best example of this is the drunk who chooses to drive. The person knows the risk but chooses to do it anyway. An aviation example would be the maintenance person who realizes he forgot his flashlight up behind the instrument panel and decides to say nothing. There can still be a learning outcome as to why the person chose to take that risk but discipline may be required to ensure that it does not happen again.

### **But how do you tell the difference?**

For the answer, you will need to answer the following questions.

**#1. Was the act deliberate with a reasonable knowledge of the consequences?** Yes = Reckless

**#2 Has the person made similar errors in the past?** Yes = Reckless

**#3 Do they accept responsibility for their actions?** Yes = Likely At-risk

**#4 Has the person learned from the experience?** Yes = Likely At Risk

**#5 Are they likely to do it again?** Yes = Reckless

The only purpose of discipline has to be “To Ensure that it does not happen again”.



There will be those who will have trouble agreeing with this culture change and will hide behind the “he/she must be held accountable” adage. This is the ruminants of the Blame (cement boot) culture. This is especially true of the At-risk error where the error was knowingly made but the possible consequences weren't.

At-risk errors only occur about 15% of the time leaving Reckless errors with the outcome of discipline responsible for only 5%. Who would have ever thought it would be that low? In a [true Just Culture](#) it will be and the cement boots will be a thing of the past.

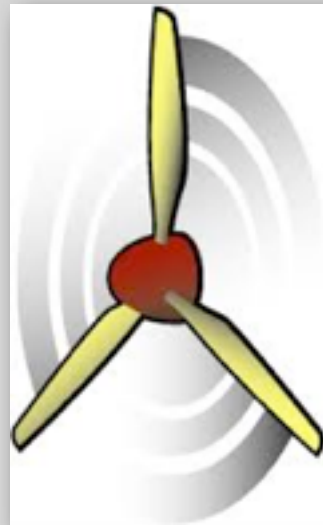
## **Man Fatally Injured By Propeller In Alaska**

### **Had Been Trying To Stop Another Airplane That Was Rolling Away**

A pilot was fatally injured Thursday in Alaska when he jumped out of his airplane on the ground to [try to stop](#) another aircraft that was rolling away and ran into the turning propeller of his own airplane. The pilot was 62-year-old Clark Baldwin of Wasilla, AK. According to a National Parks Service release, he had been instructing a small group of pilots in off-airport landings on a gravel bar on the Chitistone River located in the Wrangell-St. Elias National Park and Preserve. His plane was one of a group of four Super Cubs participating in the exercise.

The Alaska Daily News reports that, according to the National Parks Service, the four planes had stopped on the gravel bar [but left their engines running](#). When one of the planes began to roll forward, Baldwin, the owner and operator of the Alaska Cub Training Specialists flight school, jumped out of his plane to help stop the other from getting away. He ran directly into his own propeller, according to Wrangell-St. Elias National Park and Preserve chief ranger Peter Christian.

Christian characterized the incident as "just a tragic accident."



# Pilots and Mechanics Must Communicate after Critical Maintenance

by John Goglia

If you missed the NTSB's safety alerts this past month, three were targeted at general aviation pilots and one at GA mechanics. The three aimed at pilots involve flying in mountainous terrain; transition training when flying different aircraft or aircraft with



different flying characteristics or avionics; and the importance of performing detailed preflight checks after maintenance, especially maintenance involving flight control and trim systems. The alert targeted to the GA maintenance community stems from recent accidents involving improperly rigged flight controls and trim system. The alerts targeted to the GA pilots and mechanics involving maintenance raise an issue near and dear to my heart: [the importance of communication between maintenance and flight operations](#).

Communications between maintenance and flight ops is critical no matter whether the operation involved is an airline operated under Part 121 or Part 135 or a private operation under Part 91. Of course, in general aviation, the pilot is often the only person in the "flight department" so communication directly between the maintenance provider and the pilot is crucial to ensuring safety after maintenance is performed.

In my experience as a mechanic who worked on both airline and general aviation aircraft and [as an NTSB member reviewing accidents](#), communication between those who maintain aircraft and those who fly aircraft is not as good as it could and should be. In these alerts, the NTSB highlights one particular area where the failure to communicate clearly can have tragic results for the GA pilot.

The alert to mechanics reminds them to verify correct directional travel of controls and trim. This alert is predicated on four general aviation incidents over the last two years that involved similar problems and caused in-flight emergencies.

[Problems with improperly rigged flight controls are not limited to GA mechanics. An Air Midwest Beech 1900 flying as a regional carrier for USAirways crashed on takeoff at Charlotte, N.C., in January 2003 because a mechanic [had rigged the elevator control incorrectly](#). This error, combined with the aircraft being outside its c.g. envelope, prevented the pilots from being able to control the pitch of the aircraft. The resulting stall and crash killed all 19 passengers and two crewmembers.]

## Communication Is a Two-way Street

According to the NTSB's current safety alert to GA mechanics, the common threads in the recent accidents were "maintenance personnel who serviced or checked the systems [did not recognize](#) that the control or trim surfaces were moving in the wrong direction" and "pilots who flew the airplanes [did not notice](#) the control anomalies during their preflight checks." The NTSB noted that these errors occurred despite the high experience of the mechanics.

The alerts make specific recommendations for mechanics about preparing to perform maintenance and actually performing it. They include becoming familiar with the systems before disassembly. "It is easier to recognize 'abnormal' if you are familiar with what 'normal looks like'; follow up-to-date procedures from the manufacturer and any airworthiness directives; [and remember that human factors](#) such as fatigue and stress can affect the performance of your work. Be alert for these factors and guard against the risk that they pose."

But I was particularly struck by this recommendation: "Ensure that the aircraft owner or pilot is thoroughly briefed about the work that has been performed. This may prompt them to thoroughly check the system during preflight or help them successfully troubleshoot if an in-flight problem occurs." Too often maintenance is done and logbooks are handed back to customers [without this kind of thorough and detailed debriefing](#). But just as it's important for mechanics to communicate directly with customers after maintenance, it's important for pilots to seek out that information. If mechanics aren't forthcoming with details of what work was done on their aircraft, owners, especially owner-pilots, should be asking. Communication must always be a two-way street.

In conjunction with the release of the general aviation safety alerts, the NTSB released a video to supplement the flight control and rigging safety alerts, Lessons Learned from a Close Call (see page 1). If a picture is worth a thousand words, this video is worth a thousand safety alerts. Although the two pilots speak calmly and professionally of a flight-test they were asked to perform after maintenance on an aircraft, which included rigging of the flight controls, it's obvious that having an unresponsive aircraft made for a harrowing flight.

The video includes interviews of the two pilots and the mechanic, with 24 years of experience, who did the work. [Kudos to the two pilots](#) for calmly handling a difficult in-flight emergency. And [kudos, as well, to the mechanic](#) for coming forward and describing the mistake so that others could learn from it. It takes a lot of guts to admit a mistake publicly.

And while I'm on the subject of general aviation communication with pilots, it's worth mentioning that one of the other safety alerts issued by the NTSB (titled Mastering Mountain Flying) highlights the importance of communication between FBO personnel and GA pilots. The recommendation says "FBO staff should be alert for customers who appear to be planning flight into mountainous terrain who could benefit from mountain flying instruction." Of course they need to be alert, but then the FBO needs to communicate with the pilot. The FBO should have procedures in place for staff personnel that set out how to handle these situations where [a pilot appears to be unfamiliar](#) with the local airport and the local flying conditions. The alert doesn't explicitly say what the FBO staff should do; it merely notes that a pilot could "benefit from mountain flying instruction." Without more explicit guidance, the alert doesn't help get the pilot the instruction he or she might need.

## **Faulty software installed to Airbus A400M plane crash**

Airbus SAS has admitted that a [software problem](#) caused its A400M transport plane to crash in an accident that killed four people last month.

Germany's Handelsblatt newspaper reports the software in question was [installed incorrectly](#), and that caused the A400M's engines to stall shortly before the crash. However, the software itself was free from glitches.

Marwan Lahoud, Airbus' chief strategy officer, said in an interview that the company believes there is no problem with the airplane itself. "The black boxes attest ... that there are no structural defects, but we have [a serious quality problem in the final assembly](#)," Lahoud said.



In a statement released ahead of publication, Handelsblatt wrote that the units which control the engines of the turboprop A400M military cargo and troop transport were [poorly installed during final assembly](#), which could have led to the engines malfunctioning and the plane crashing.

But Airbus's defense and space division told AFP that it was too early to draw any conclusions.

"We will need the full results of the investigation in order to have the full picture, so as long as there is no further communications from (the investigating authority) CITAAM it is too early to draw any conclusions from the accident," it said in a statement.

The division added that "like all accidents, it will certainly [be a combination of issues and not one single cause](#)".

It also said other A400M aircraft in service have already been subject to checks and are "100 percent protected from this failure".

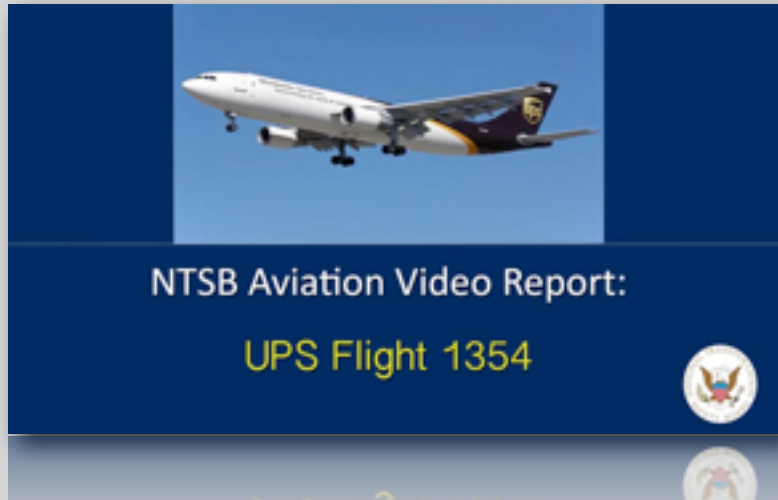
The May 9 accident occurred shortly after aircraft MSN23 takeoff from San Pablo Airport in Seville, Spain, on its maiden flight. The plane crash landed, resulting in the deaths of four Airbus Defense and Space personnel. Two of the six people on board the plane, a mechanic and an engineer, survived the crash and were sent to a hospital in critical condition. Airbus has already told A400M operators - Germany, Britain, Turkey and France - to check the planes' Engine Control Unit.

Last week, Tom Enders, CEO of Airbus, complained that Spanish authorities were withholding the black box data, which meant it couldn't fully analyze what caused the crash.

Now, with the results in, Airbus officials will at least be relieved the plane's design is not at fault. Nevertheless, they will [need to carry out stringent checks](#) to ensure that future software installs don't go wrong.

## First-ever NTSB video report on a plane crash

The National Transportation Safety Board did something recently that it never had done before, releasing an eight-minute video in which its investigators explain [what went wrong](#) in the fatal crash of a UPS cargo plane in 2013.



A trio of NTSB investigators use a video recreation and other visual aids to tell why UPS flight 1354 crashed short of the runway at Alabama's Birmingham-Shuttlesworth International Airport on Aug. 14, 2013. The pilot and co-pilot, the only people on board, were killed, and the plane filled with packages was engulfed in fire. The NTSB put out a 153-page report last September that the crash was caused by a [variety of factors](#), including an unstabilized approach during which the crew failed to configure and verify their computer information or communicate sufficiently.

The report, like most NTSB documents, is a clear factual description that makes for fairly dry reading. The movie released to accompany it is an unprecedented addition that uses interviews and visual material that bring fresh life to the incident.

"People consume information and absorb lessons in different ways," said NTSB Chairman Christopher A. Hart. "This video is another way to [reach pilots and aviation safety professionals](#) with the lessons we learned through our investigative work."

<https://youtu.be/Dsr8C9fsYjo>

<http://www.nts.gov/investigations/AccidentReports/Pages/AAR1402.aspx>



## Air France faces new safety probe after freighter scare

Air France faces its second safety investigation in as many weeks after pilots were forced to recover in mid-takeoff after [entering the wrong data](#) into the computer of a cargo jet, airline and safety officials said.

The mistake over the plane's weight was discovered when the Boeing 777 freighter accelerated too slowly on the runway at Paris Charles de Gaulle airport on May 22.



Underestimating the weight can result in a plane trying to perform its takeoff without enough thrust or speed, increasing the risk of hitting the ground with the tail or overshooting the end of the runway.

A person familiar with the matter said the weight entered into the system of the Mexico-bound jet was drastically lower than the correct value, lagging by as much as 100 tons, which is more than a quarter of its maximum takeoff weight.

To compensate, pilots had to override previous settings and throttle the aircraft's two engines to their maximum to avoid scraping the ground with the back of the plane.

Air France confirmed the incident in response to a query from Reuters and said the crew had been taken off flying duties [after reporting the error](#) on reaching their initial destination.

"Having understood that the airplane was accelerating too slowly, the crew immediately reacted and applied full power. The aircraft then took off normally," an Air France spokesman said in an emailed statement.

A spokeswoman for France's BEA air crash investigation agency said it had launched an investigation in addition to the airline's internal inquiries.

"I confirm that an investigation has been opened in response to information provided by Air France," she said.

It is the second time this month that Air France has grounded one of its crews and faced a BEA investigation after a Boeing 777 jetliner narrowly avoided hitting Mount Cameroon, an active volcano and the highest peak in Central Africa.

## DATA RISK

In both incidents, the airline said crew had identified the problems in time and responded correctly.

The BEA has already alerted the industry to the risks of inserting faulty data into modern cockpit systems.

Advances in automation since the 1990s are credited with making flying safer, but there have been about [a dozen cases](#) in the past two decades when systems were led astray by wrong data.

Pilots are trained to overcome this with repeated cross-checks, but there have been concerns about crews [being overloaded or distracted](#) during busy flight preparations.

Safety experts say the so-called "[hurry up syndrome](#)" is a growing concern as traffic increases, though some aircraft now include systems designed to make it harder to enter errors.

In a 2008 study, the BEA said that slow and underpowered takeoffs can lead to a "loss of control of the aircraft". In the worst such incident in October 2004, a Boeing 747-200 operated by MK Airlines overshot the runway at Halifax, Canada, and caught fire, killing all seven crew.

The latest cockpit scare echoes an accident in 2009 when an Emirates jet hit lights and an antenna at the end of the runway in Sydney. Investigators found that the A340's crew had also been 100 tons out [when tapping](#) in the crucial weight data.

Air France said that, based on current information, "we have not identified a situation that could have led to an accident", but the BEA will examine whether to make new recommendations.

After accusations of complacency following the crash of a jet in the Atlantic in 2009, Air France has sought to [overhaul its culture and persuade pilots to be frank about errors to help to improve safety](#), but unions say they remain overstretched.

## FAA Implements New Airport Safety Program

The FAA has made significant progress in [improving runway safety](#) at U.S. airports over the past 15 years by working with other members of the aviation community on education, training, marking and lighting, standard runway safety areas, new technology and airfield improvements.

The FAA plans to build on that success by working with airport sponsors over the next 10-15 years to further reduce runway risks through risk-based decision-making. A new FAA national initiative known as the [Runway Incursion Mitigation \(RIM\) program](#) will identify airport risk factors that might contribute to a runway incursion and develop strategies to help airport sponsors mitigate those risks.

Runway incursions occur when an aircraft, vehicle, or person enters the protected area of an airport designated for aircraft landings and take offs. Risk factors that [contribute to runway incursions may include](#) unclear taxiway markings, airport signage, and more complex issues such as the runway or taxiway layout. Through RIM, the FAA will focus on reducing runway incursions by addressing risks at specific locations at the airport that have a history of runway incursions.

Risk-based decision-making builds on [safety management principles](#) by using a consistent approach to proactively address emerging safety risks. The FAA already has collected and reviewed data to identify specific airport areas with risk factors that could contribute to a runway incursion. The FAA has developed a preliminary inventory of airport locations where runway incursions have occurred. The FAA will work with the airport sponsors to develop strategies to mitigate runway incursions at these locations.

The FAA has kicked off the new initiative as it is wrapping up an extremely successful 15-year program to improve and standardize runway safety areas at the nation's top commercial service airports..



## **NSC Reports Traffic Deaths Have Increased for Six Consecutive Months**

The trend is expected to continue as summer arrives.

The National Safety Council reported that traffic deaths in the U.S. have increased every month for the past six months, compared with the same months in 2014. NSC is asking all drivers [to double down on safety](#) to slow the rate of increased fatalities and injuries because the council expects this trend to continue into the summer, a period that it calls the ["100 deadly days."](#) "While the statistics point out a dangerous trend, we have the ability to influence outcomes through our choices and behavior," said Deborah A.P. Hersman, president and CEO of the National Safety Council. "Summer is typically a high-exposure period with lots of miles driven and several long holiday weekends. Take your responsibilities behind the wheel this summer seriously and ensure that you get to your destination safely."



The three-month stretch between Memorial Day and Labor Day has taken [48,579 lives since 2010](#). NSC believes the increase in car crashes is due in part to the improved economy. Lower gas prices and lower unemployment rates lead to an increase in traffic because more people can afford to drive.

Fatal car crashes have seen an 11 percent increase during the past three months and an 8 percent increase in the past six months.

## **Surviving the Night Shift**

Working while everyone else is sleeping [takes a serious toll](#) on a person's health. Clocking in to work nights, or irregular and rotating shifts is associated with [more stress and unhealthy lifestyle habits](#), such as being sedentary, and following an unhealthy diet, which can lead to diabetes, heart disease, and other chronic issues, new research reveals.

Scientists found that people working nights or extended hours ate more **fat and fewer fruits and vegetables** than those who work days, a difference that can lead to weight gain. A separate study also found shift workers are more likely to be overweight, struggle with insomnia, and get insufficient sleep on a regular basis, *Medical Daily.com* reports. Scientists warn that not getting enough sleep also **heightens the risk for** metabolic disorders, including obesity and diabetes. "The most important message to shift workers," says researcher Katri Hemio, "is that they should be aware of increased risk for chronic diseases and that healthy nutrition may lower the risk."



## **Eastwood Directs Miracle On The Hudson Movie**

Clint Eastwood will produce the Hollywood interpretation of the events that became known as the **Miracle on the Hudson**. Eastwood will direct the movie based on the ditching of US Airways Flight 1549 on the Hudson River in January of 2009. It will be produced by Eastwood and Tim Moore along with well-known Hollywood producers Allyn Stewart and Frank Marshall. Harrison Ford introduced Capt. Chesley Sullenberger, the pilot flying on 1549, to Marshall. There has been no announcement on who will play Sullenberger or his first officer Jeff Skiles. Eastwood, whose latest film, *American Sniper*, was a major critical and financial success, was a good pick, according to Sullenberger. "I am very glad my story is in the hands of gifted storyteller and filmmaker Clint Eastwood, and veteran producers Allyn Stewart and Frank Marshall," Sullenberger said in a statement reported by the *Hollywood Reporter*. "The project could not have found a better home than Warner Bros. Pictures. This is truly a dream team." Eastwood's challenge may be taking an event that took about five minutes from wheels up to splashdown and turning it into a feature length film.



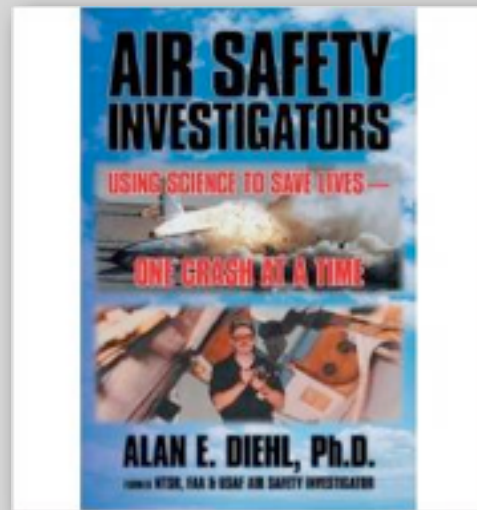
It may be partly based on Sullenberger's 2010 memoir [Highest Duty: My Search for What Really Matters](#), which was optioned by Marshall and Stewart shortly after it was published. The script is being written by Todd Komarnicki.

## **Aviation Book**

Air Safety Investigators : [Using Science to Save Lives-One Crash at a Time](#) "Dr. Diehl's book is a well written and candid account of how aviation crashes are investigated.

With an impressive background as a crash investigator, an aircraft designer and an aviation psychologist, he has a talent for explaining the investigative process in a way that the reader will find compelling and informative.

This book should be read by anyone who has an interest in aircraft accident investigation, and anyone who is about to work in the field of aviation safety, either in government or the aviation industry itself."



<https://www.youtube.com/watch?v=FfLt6Alvh3g&feature=youtu.be>



## TED - Ideas Worth Sharing

### “gratitude”

Nature's beauty can be easily missed -- but not through Louie Schwartzberg's lens. His stunning time-lapse photography, accompanied by powerful words from Benedictine monk Brother David Steindl-Rast, serves as a meditation on being [grateful for every day](#).



[https://www.ted.com/talks/louie\\_schwartzberg\\_nature\\_beauty\\_gratitude](https://www.ted.com/talks/louie_schwartzberg_nature_beauty_gratitude)