

# 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:

★When The minimum Wasn't Enough

★FAAST Maintenance Safety Tip

★An Intersection Close Call

★Groupness

★Two-Day Seminar To Be Held In Washington, D.C.

★Sully' Sullenberer on being a national hero and making a difference

★"Breaking the Mishap Chain"

★Pilot's Tip of the Week

★Pilots stage fatigue protest

★How not to die

## When The minimum Wasn't Enough

While working on Airframes mid-check, a fellow airman and I were tasked with removing two high-time dampers from a HH-60H aircraft. We checked out our tools and cranials and went to work. This was not our first time doing this task, so I was **confident** we would complete it without any problems.

As we began work, we had a hard time removing the bolts that hold the dampers to the aircraft.

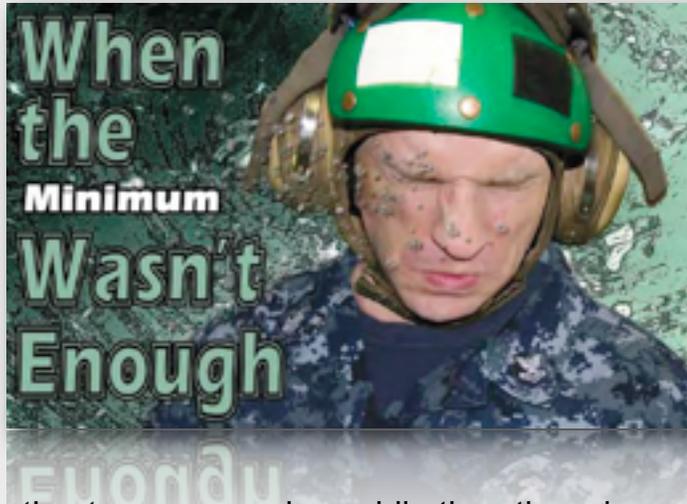
Frustrated, I went to explain the situation to my supervisor while the other airman watched over the tools. My supervisor concluded that there was residual pressure on the hydraulic lines, which was seizing the damper bolts.

This is where I should have thought about **applying some risk management** to the task. In addition to the minimum required personal protective equipment (PPE), I should have checked out cranial goggles. As my supervisor loosened the line, a spray of hydraulic fluid shot from the disconnects and **hit me in the eyes**. Both my supervisor and fellow airman instantly stopped their work to figure out what had happened.

The burning pain in my eyes made me instantly climb down off the aircraft. My supervisor turned the job over to the other airman while he took me to the eyewash station. After the wash, my eyes were still bloodshot red. He notified our Maintenance Control about the incident and our chief escorted me to medical. Because this happened in the **very early morning**, we had to wait for an extended period of time at the emergency room before I could be treated.

I then spent half of the next day at medical, receiving eye drops to soothe the pain and reduce the redness in my eyes.

After the ordeal, I realized that I had not taken the time to assess what was the proper, and **not simply the minimum required**, PPE. If I had worn my goggles down, I could have avoided the spray of hydraulic fluid, a personal injury, and the lost productivity for the work center. I was thankful that my eyesight was not damaged. I had lost one day of work, but learned an important lesson.



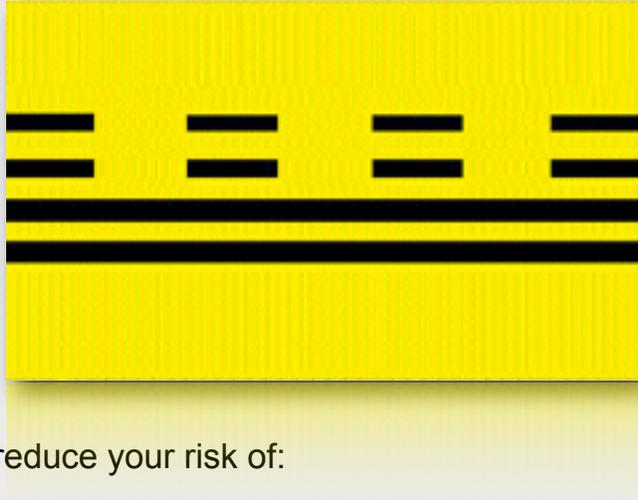
## FAAST Maintenance Safety Tip

FAA Safety Team | Safer Skies Through Education

Notice Number: NOTC3750

### Maintenance Vehicles and Aircraft Towing

You have a job to do and you want to get it done right - Right!? This, in many, requires you to drive maintenance vehicles or move aircraft by taxi or towing on the airfield movement areas. Be proactive and learn the tower (jot them down), recognize and understand the airfield markings and signs, and by all means [before you move](#), get authorization/clearance - and verify! Doing this will reduce your risk of:



Causing an unauthorized or unapproved movement within the movement area or an occurrence in the movement area associated with the operation of an aircraft that affects or could affect the safety of flight resulting in a reported surface deviation incident.

- or -

Causing any occurrence at an airport involving an aircraft, vehicle, person or object on the ground that creates a collision hazard or results in loss of separation with an aircraft taking off, intending to takeoff, landing, or intending to land resulting in a reported runway incursion.

More information about Runway Safety can be found on their web site at: [http://www.faa.gov/airports/runway\\_safety/](http://www.faa.gov/airports/runway_safety/)

## An Intersection Close Call



According to the FAA, there are approximately three runway incursions every day in the United States. A runway incursion is defined as: Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and takeoff of aircraft.

Different aspects of the runway incursion problem will be addressed in future issues of CALLBACK. This month we will look only at runway incursions related to intersection departures.

Thanks to an alert ATC crew in the Tower, a pilot's failure to hold short at a runway/taxiway intersection resulted in a close call rather than a collision.

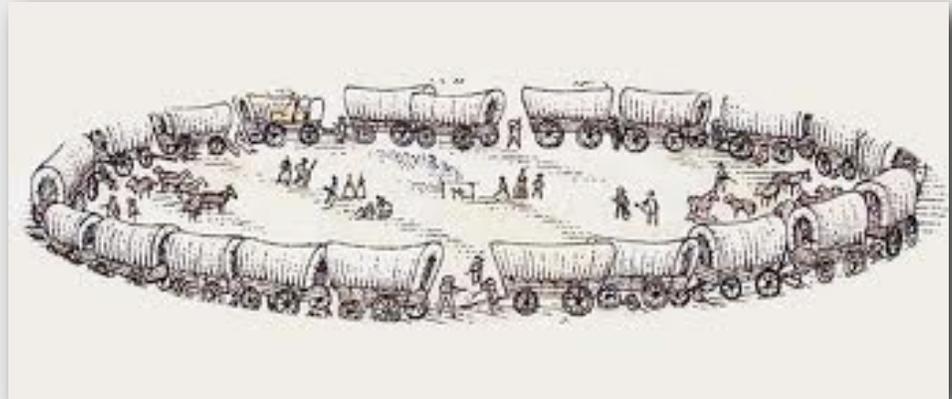
■ A PA46 Malibu called ready to taxi at the west ramp. I told him, "Taxi to Runway 14R at Echo; taxi via Echo" and he read back, "Taxi to 14R at Echo." I noticed him taxiing fast on Echo while I was giving another aircraft an IFR clearance. As he got closer to the runway, I asked him if he needed a run-up; he replied, "No." I was about to ask him if he needed a back taxi when I noticed he wasn't slowing down for the hold short line. I immediately told him to stop, but he passed the hold short line. I turned to tell my Local Controller, but he had already seen it and canceled a Cessna's takeoff. The Malibu was not able to stop before entering the runway, and the Cessna was not able to stop before the intersection. The Cessna swerved left to miss the Malibu, and reported being 50 feet away at the time he passed him. We advised the Malibu of his possible pilot deviation.

I believe we did everything in a timely manner. I don't know what made the pilot not see the runway, but as soon as I noticed he wasn't going to stop, I reacted.

## Groupness

In the 1930's the Great Atlantic & Pacific Tea Company (A&P) was the most popular grocery chain in the U.S. with nearly 16,000 stores. Its strategy was to focus on a single need: cheap groceries. By the end of WW II it was one of the biggest companies in the world. Then

**something strange happened:** Leftover production capacity from the war created new industries. Now people wanted more than cheap groceries. They wanted more choices, more convenience and even new exotic foods.



The man who managed A&P dedicated himself to carry on the company tradition, regardless of evidence that it was a doom strategy. He lived by the motto "You can't argue with a hundred years of success." Throughout the next three decades, A&P fell into decline and cease to exist in many regions. The strange thing about this is that A&P had the same information that other companies had, notably Kroger. The world had changed. The old model wouldn't work any more. A&P even opened an experimental store called Golden Key that succeeded using the supermarket model known today. **The information clashed with what they believed to be true, so they closed and ignored the information,** while Kroger went on to become one of the largest grocery chains in America.

What A&P did is not uncommon, whether in business, science or teams. Behavior like that, seemingly contrary, stems at least in part from a phenomenon that psychologists call 'groupness.'" The term refers to the tendency of various animals, **including humans,** to form in-groups. When the in-group encounters individuals from outside the group, the default response is hostility. People protect their group from outside influences. For example, **we will reject** information, habits and culture from other groups.

The power of groupness is not to be underestimated. If a group invests a lot of effort in a goal and succeeds, its boundaries become stronger, and it tends to become more hostile to outside influences. This may not be overt hostility.

It may simply be a subtle and unconscious tendency to reject anything from another group.

NASA has lost two space shuttles, costing the lives of 14 crewmembers, and [groupness was at least partly to blame](#). The astounding effort and success of the Apollo program had created a culture like that at A&P. NASA defined itself as technically excellent – ‘the perfect place,’ as one researcher called it. They put a man on the moon, and it was hard to argue with success. The insidious message was: [We know what we’re doing](#). The result of that is; You can’t tell me anything I don’t already know.

By the time components of the space shuttle began failing (the O-rings in the case of Challenger and the foam insulation in the case of Columbia), NASA managers [were so blinded](#) by groupness that they could not recognize that those malfunctions were clear signs of impending disaster.

The official report on the crash of Columbia said, “External criticism and doubt reinforced the will to impose the party line vision on the environment, not to reconsider it...” This in turn led to flawed decision making, self deception, introversion and diminished curiosity about the world outside the perfect place.

Groupness has been the downfall of many a good corporation over the years. Researchers at the MIT Sloan School of Management studied the relationship between how long a particular group had been together and how well it communicated with outside sources. [Newly formed groups communicated much more with outsiders](#) and also performed much better than older groups, which became more insular and dysfunctional over time.

The groupness effect, strengthened by a few chance successes, can begin to [blur the line](#) between true success in achieving a goal sensibly and a close call that simply didn’t turn into disaster. Just because you get away with something doesn’t mean it was a good idea. In addition, just because something worked in the past doesn’t mean it will work in the future.

Whatever the pursuit, it’s important to be aware of the power of the groupness, to [seek good information from outside the group](#), and to make sure that what seems like success is not just a close call.

## Two-Day Seminar To Be Held In Washington, D.C.

The National Transportation Safety Board (NTSB) recently announced that it will hold a 2-day forum [focused on safety issues related to general aviation](#) on June 19-20, 2012 in Washington, DC. The event, "General Aviation Safety: Climbing to the Next Level," will be chaired by NTSB Chairman Deborah A. P. Hersman and all five Board Members will participate. "Each year, hundreds of people are killed in general aviation crashes, and thousands more are injured," said Chairman Hersman. "Tragically, the circumstances leading to these accidents [are often repeated over and over](#), year after year. If we are going to prevent future fatalities and injuries, these common causes must be addressed." Over the years, the NTSB has issued numerous safety recommendations addressing general aviation operations and last year, added General Aviation Safety to its revamped Most Wanted List of Transportation Safety Improvements.



Among the [key safety issues](#) the forum will address are pilot training and performance, pilot access to and use of weather-related information, and aircraft design and certification. Panelists participating in the forum will represent industry, government, academia, and professional associations. A detailed agenda and list of participants will be released closer to the date of the event.

The forum will be held in the NTSB Board Room and Conference Center in Washington D.C. The forum is open to the public and free of charge. In addition, the forum can be viewed via webcast.

FMI: [www.nts.gov](http://www.nts.gov)

## Sully' Sullenberger on being a national hero and making a difference

When Captain Chesley "Sully" Sullenberger safely landed a disabled U.S. Airways jet in the Hudson River on Jan. 15, 2009, some said the rescue came out of the blue. But Sullenberger disagrees with that premise, insisting that three generations of intellectually curious ancestors deserve the credit. "My grandparents all went to college; my mother was a first-grade teacher," he said. "I grew up in a safe, stable environment that fueled much of my career."

It's a career that took off from the Air Force Academy, shot through the military, navigated its way through decades of commercial aviation and rocketed into notoriety when a flock of birds caused the Danville man to find his inner Superman.

"In that instant, [the lives of everyone on that plane changed completely](#) -- if not forever, for a long time," he recalled in a recent interview.

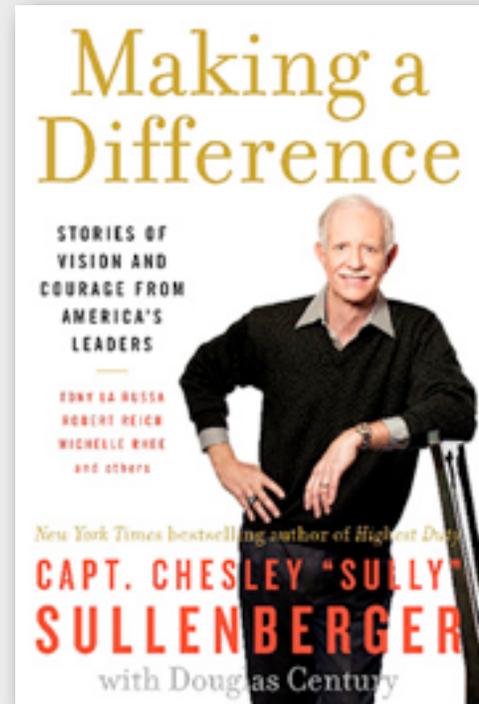
"We had skills we had to develop very quickly to survive and we had [to have the confidence](#) to use them effectively."

Becoming a national hero -- Time magazine placed him second on the 2009 Top 100 Heroes and Icons list -- tasked Sullenberger with extending his mind-bending achievements beyond the cockpit.

"To handle this kind of notoriety, [I had to grow in many ways](#). It was a huge stretch for me to handle the attention," he said. Speaking to audiences of 2,000 requires more than simply stringing words together, he suggested, adding, "It's kind of like flying. You have to have global awareness bottled up while considering alternative paths."

Although painted by the media as "shy," Sullenberger comes on strong when it involves the quality that propels his passion for aviation safety: leadership.

It's the subject of his newest book, "[Making a Difference: Stories of Vision and Courage from America's Leaders](#)," and the cornerstone of his purpose as an aviation expert and public speaker.



"In evidence-based domains, like medicine and aviation, it's the facts that tell us how to do it safely [but it's our humanity that tells us why](#). People tell me leaders are lacking. I think they're there, they've just gotten lost in the noise," he said.

To combat that, Sullenberger's book zooms in on what he calls "[islands of excellence in a systemic-wide sea of failures](#)." Individuals' stories, bristling with emotion, are tethered to a linchpin of realistic optimism.

## **"Breaking the Mishap Chain:**

[Human Factors Lessons Learned](#) from Aerospace Accidents and Incidents in Research, Flight Test, and Development"

This volume contains a collection of case studies of mishaps involving aircraft, aerospace vehicles, and spacecraft in which [human factors played a significant role](#). In all cases the engineers involved, the leaders and managers, and the operators (i.e., pilots and astronauts) were supremely qualified and by all superior performers. Such accidents and incidents [rarely](#) resulted from a single cause but were the outcome of a chain of events in which altering at least one element might have prevented disaster. As such, this work is most certainly not an anthology of blame. It is offered as a [learning tool](#) so that future organizations, programs, and projects may not be destined to repeat the mistakes of the past. These lessons were learned at high material and personal costs and should not be lost to the pages of history.



Download: [EPUB](#) | [MOBI](#) | [PDF](#)

## Pilot's Tip of the Week

Tackling the #1 cause of general aviation accidents

Did you know NTSB statistics attribute 85% of aviation accidents to pilot error?

And it isn't limited to low-time pilots. We've all seen the reports where seasoned pros commit fatal mistakes. We can easily ignore this, saying "It will never happen to me." Or

we can meet it head on and make it a priority to learn how to recognize and deal with the causes of pilot error.

Aviation speaker, instructor and author Rod Machado has spent years studying this topic and has produced some fascinating programs on how we can effectively deal with this issue.

Pilotworkshop.com has teamed up with Rod to put together a special package of his most important live presentations and articles on the subject of accident prevention. He tackles this serious topic with his unique brand of humor and fun.



Get full details here:

<http://pilotworkshop.com/85percent>

## Pilots stage fatigue protest

Hundreds of pilots and cabin crew from across Europe this week demonstrated in front of the European Aviation Safety Agency (EASA), in Cologne to convince them that **safety must be at the heart** of new pilot fatigue rules. EASA is currently meeting to discuss their latest draft of pilot fatigue rules which safety campaigners and pilots believe are unsafe and unscientific.

BALPA members joined colleagues from across the continent in telling EASA that safety must be their number one priority.

Jim McAuslan, BALPA's General Secretary, said, 'As we have said many times, EASA's current proposals are deeply flawed. Would you feel safe driving your car after having been awake for almost a full day? Under its current proposal for air crew on standby, EASA would require a pilot to land an airplane full of passengers around 22 hours after having woken up in the early morning. This is only one of the many striking unsafe examples that the current proposal would permit. Nico Voorbach, President of the European Cockpit Association, said 'Science has demonstrated that long flight and duty hours, and insufficient rest and sleep opportunities will lead to a decline of alertness and performance. To guarantee that pilots and cabin crew are fully alert, strong EU rules, [based on science, are essential.](#)'



François Ballestero, Political Secretary of the European Transport Workers' Federation (ETF) said, 'The "S" in EASA's name stands for SAFETY. And this is what we rightfully demand from the Agency. But EASA is not yet fulfilling its duty as a safety regulator. Instead it is giving in to the lobbying of big airlines, which are commercially-driven.'

Jim McAuslan went on: 'We need two things. EASA needs to drastically improve their proposals in some key areas, and take on board the scientific advice that they have received. And we need the UK Government to say that unless these rules are significantly improved, and made to reflect the scientific recommendations, that they would not support their implementation in the UK.'

## [How do you paint an Airbus?](#)



**Didler Wolff** and the **Happy Design Studio** team recently created a new livery for Abu Dhabi-based Maximus Air's A300-600.

Sit back for ten minutes and enjoy the video. [click here](#)

## **How not to die**

Can you cheat death? Yes, you can, says a new Harvard School of Public Health study of 12,000 people – at least to the extent of adding years or even decades to your life. When the researchers analyzed the health records of these people over 32 years, they found that more than half of the deaths in this group **could have been prevented** through healthier lifestyle choice, such as exercising, not, not drinking in excess, and eating properly to avoid major weight gain. The study found that 44 percent of the deaths from cancer were avoidable, as were a whopping 72 percent of the cardiovascular fatalities. Even **tiny changes**, like walking for half an hour every day, quitting smoking, or eating more vegetables and less fat, can significantly reduce one's risk of cancer and heart disease. Extending one's life, Harvard's researchers say, **is literally a matter of will.**

