

Aviation Human Factors Industry News

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

Hello all,

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

★Dirty Dozen: Counteracting Complacency

★Mindset Matters

★Do It Right The First Time

★Flight 93 Co-Pilot's Widow Pens Book

★A Look at World Air Traffic From a Satellite Over a 24 Hour Period

★Use the Character Triangle to inspire your team

★Looking Inward

★Husband Day Care Center

Dirty Dozen: Counteracting Complacency

Counteracting Complacency

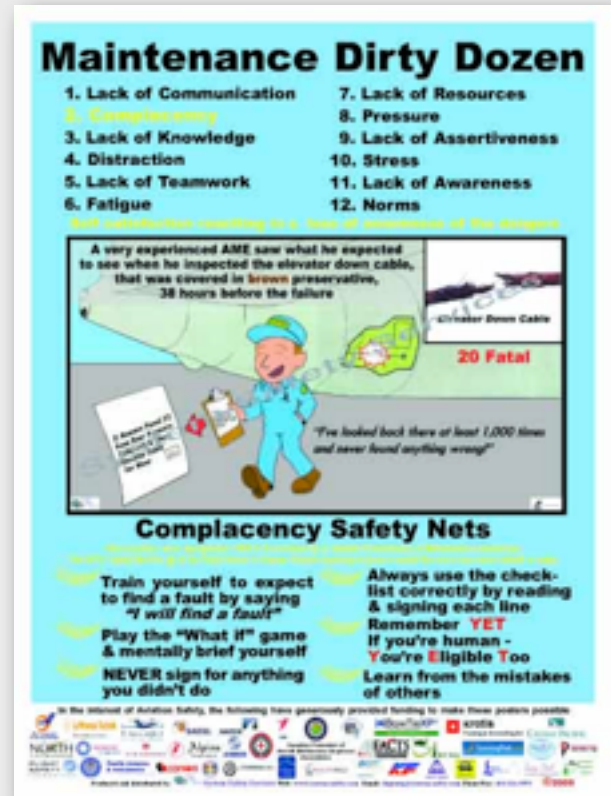
Believe it or not, sometimes being “safe” just doesn’t cut it. Just because your workplace has an unblemished safety record doesn’t mean that accidents can’t or won’t happen. Assuming that everything is as safe as it can get **is a sign of a complacent view of your job, your responsibilities, and your surroundings.**

Complacency is a feeling of quiet pleasure or security, often while unaware of some potential danger or defect. It is a self-satisfaction or smug satisfaction with an existing situation or condition. According to Tzvetomir Blajev of SKYbrary, overconfidence in a system leads to complacency and **lack of adequate vigilance**. The International Civil Aviation Organization (ICAO) says that complacency or a false sense of security should not be allowed to develop **as a result of long periods without an accident or serious incident**. An organization with a good safety record is not necessarily a safe organization. “There is absolutely no room for complacency where safety is concerned. There never was, and there never will be,” says Dr. Assad Kotaite, former president of the Council of the ICAO.

Contributors to complacency

Complacency can show its ugly face in many ways, all of which can lead to a reduced awareness of danger. Overconfidence and self-satisfaction, especially when combined with contentment, will lower a likelihood of suspicion. Simply put, if you assume nothing bad can or will happen, you won’t anticipate danger and you won’t know how to react when it happens.

Someone who is overconfident might take on too many tasks at once. When a simultaneous workload is higher, **so is the chance for error.**



According to Aviation Electronics Technician (Second Class) Lawrence Brown, trying to do too many things at one time can cause confusion in processes. Missed steps can result from knowingly or unknowingly cutting corners.

For example, the report [“Influence of Time Pressure on Aircraft Maintenance Errors”](#) by Takahiro Suzuki, Terry L. Von Thaden, and William D. Geibel illustrates cases of complacency: “When an AMT pointed out a problem with an aircraft in ACN 641974, a lead mechanic told an AMT to dispatch an aircraft because ‘it was just making a round trip.’ A complacent attitude was also observed in ACN 635595 in which an AMT had conducted a bird strike inspection without using the printed inspection instructions because the AMT could not print out the maintenance manual.”

High stress, excessive hours, low morale, fatigue, and unreasonable deadlines [are also factors](#) that can lead to complacency. Any single one of these factors could cause someone to speed through a process “just to get it done.” Now imagine a combination of those factors.

Quality of workmanship suffers when technicians become complacent — and no aircraft passenger deserves to board a plane that was maintained or repaired poorly. Brown says that poor workmanship can also result in high rework costs and time lost, which causes even overall lower production rates.

“The fatigue from working too many hours could cause an inspector to overlook critical checkpoints,” says Brown. “The outcome of what could happen if the final inspectors don't do their jobs is scary to think about.”

Fighting the good fight

Supervisors need to be aware of potential causes and contributors to complacency and look for warning signs in their staff. [Listen to complaints and concerns of the maintainers](#). Take them aside and speak to them one-on-one to give them a chance to be honest and to lessen the influence of co-workers. Address any problems and look for similarities in other staff members. If fatigue, stress, or low morale are commonplace, it is a sign of a [culture issue](#).

“You always have to fight complacency,” says Jerome Lederer, original organizer of the Flight Safety Foundation and former director of safety for all of NASA. “You need formal programs to ensure that safety is always kept in mind.”

In order to work out the morale issues, Brown recommends offering incentives whenever possible. Set reasonable deadlines to allow for setbacks and pitfalls. These solutions could greatly reduce complacency in the workplace.

Solutions SKYbrary offers to supervisors include:

- Try to maintain an optimum level of vigilance within your team by continuous observation which will allow you to split or band-box sectors in good time.
- Restrict unnecessary visitors, particularly in high workload or during training.
- Control distractions such as watching television or listening to loud music.
- Make sure that all mechanics receive adequate breaks.
- Ensure that filtered water is available at all times. Hydration has a profound effect on vigilance. Coffee and tea act as dehydrators although they do have a stimulant effect.

SKYbrary's solutions for aircraft mechanics include:

- Be on your guard against complacency to ensure that you are able to detect and act on any error or malfunction promptly.
- Don't allow yourself to be distracted by non-essential conversation or by extraneous noise. Speak up if these situations do occur and ask for the sources to be removed.
- Ensure you have adequate sleep and anticipate reduced vigilance brought on by fatigue.
- Request a break if needed.
- Effective teamwork is often the only mitigation for vigilance errors.

Mindset Matters

John Goglia reminds us that mechanics today need to be particularly mindful and vigilant in [maintaining aging aircraft \(and helicopters\)](#) if future tragedies are to be prevented. Ever since the first shocking photo's of a crippled Aloha Airlines B737 – it's fuselage skin peeled back from cockpit to wing – flashed across television screens and made front page news across the world more than 20 years ago, the potential impact of aging aircraft have been well-know to aviation maintenance professionals. For



those too young to remember the original news story, the fuselage rupture of a Southwest 737 this past April was [a stark reminder](#) that actions taken by the aircraft manufactures, operators, and the FAA after the Aloha accident in 1988 have not been sufficient to eliminate the potentially catastrophic impacts of aircraft aging. Mechanics today need to be particularly mindful and vigilant in maintaining aging aircraft if future tragedies are to be prevented.

Aging “aircraft”

While the aging “aircraft” includes aging helicopters, most references in the media and even in some aviation publications, focus on airplanes. To some extent, that’s understandable.

Nothing quite grabs the public’s attention as a plane full of passengers facing rapid or explosive decompression and staring up at the sky where the cabin ceiling once was.

Dramatic helicopter stories- even ones as deadly as the recent helicopter crash in Manhattan’s East River (age does not appear to be a factor in this accident with the NTSB apparently focusing on winds and weight as possible causes) – tend to have a much shorter media life span. But the fact that helicopters don’t garner quite the same media play does not mean that they are in any way immune from the cracks, corrosion, or frayed and brittle wiring that are the hallmarks of aging aircraft of every kind. Of course, the stresses of pressurization and depressurization on airliners is not a concern for most helicopters; however, the vibrations peculiar to helicopters should be.

Keep a vigilant eye

Helicopter mechanics – especially today when some operators are forced by the economics of buying new to keep flying older and older helicopters – need to be particularly aware of the impacts of an aging fleet. And that’s where mindset is important. I believe mechanics need to focus not just on the task at hand but also be alert to indicators of problems in the area in and around where they are working.

For example, when doing a required inspection, mechanics, of course, need to familiarize themselves with all the latest information on the particular make and model helicopter, so they know areas that are vulnerable to age-related problems. However it’s important not to limit the inspection to these known areas. Keep an open mind – and vigilant eye – for indicators of problems outside these known problem areas. A too narrow focus may have been what caused mechanics to miss flaws in the upper skin of the Southwest aircraft.

Similarly, mechanics performing routine maintenance have a unique opportunity to not just accomplish their assigned task, but also look around for any problems that might be reveal when panels are removed or access is gained to areas that are not routinely visible.

Alert, inquisitive mechanics can and do save time, money ...and lives!

Do It Right The First Time!

Words of Wisdom From A Military Aviator.

I have heard people in many aviation environments talk about “the mission.” Maybe it is my perspective from an oversea post where I am in harm’s way, but lately I have had the following thoughts which, I believe, can apply to any aviation endeavor or simply driving the family car—or taking other unnecessary risks. You focus on “the mission,” and you think it is so important that it is worth risking innocent passengers. Why? As the world moves toward implementing Safety Management Systems, there is confusion and lack of clarity about what is truly involved. There is a term used in most risk management models called by acronym “ALARP,” or “as low as reasonably practicable.” ATTENTION ALL READERS!....this term scares me, and should cause concern in anyone. I subscribe to the philosophy of ‘DIRTFT’, or ‘do it right the first time’. Two completely different thought processes...one is much easier and will save more lives....



I have been working in an engaging area of the world doing things that I can't disclose. In the process, I have learned more about our fellow man (and woman) than I did even in the FAA and at the NTSB, and in the private work force. **We humans are subject to many motivators**— money, pride, self preservation, etc.. One powerful motivation, in this environment, is “what’s in it for me?” or **WIIFM!** But I argue that in all things we must be sincere, compassionate, professional adults, and it all should come down to “doing the right thing”. But I realize this is easier for some than others. For some, it is in their basic nature. For others, it is whatever is expedient.

All of us are products of our environment. I sincerely believe that some of us have been ‘programmed’ to follow a strict doctrine of rules to form our foundation.

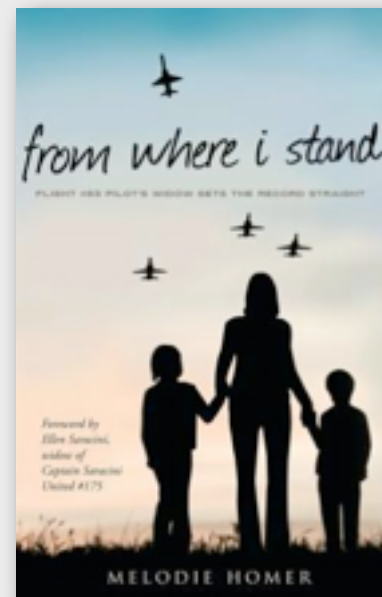
The programming may NOT be in the best interests of saving money, equipment or even lives! It is an assumption that we historically like to make about our fellowman that 'they would never have had such a thought or taken such an action...'

There are people who had knowledge about the affects of temperature extremes of the [rocket booster O-ring seals that lead to the explosion](#) of the space shuttle Challenger. There are people who had knowledge about the internal distress on the Trent 900 engines that powered the Qantas A-380 that recently experienced an uncontained engine failure requiring an emergency landing at Singapore. As smart as we are as a society, we really haven't learned enough about the courage to put our finger in the dike and to [speak up](#) when we know, or have strong concerns, about safety.

I have concerns about our current safety culture and the general mindset that society has accepted on a global basis. I also have a plan to help us survive some of the madness. In most cases, it is NOT all about the mission. It is about [DIRTFT](#), or "doing it right the first time" and finding the right answer against all the other competing concerns.

Flight 93 Co-Pilot's Widow Pens Book

Melodie Homer, widow of Flight 93 co-pilot LeRoy W. Homer Jr., has released the book "[From Where I Stand: Flight 93 Pilot's Widow Sets the Record Straight](#)" and is donating all proceeds. The book honors the deceased pilot and his role on September 11, 2001, when United Flight 93, a Boeing 757-222, was hijacked. The book also includes how the widow and her two children coped with their. Flight 93 was the only one of four hijacked aircraft not to impact a strategic target, crashing instead in a field at Shanksville, Penn. All proceeds earned from the sale of the book will be donated to support young adults seeking careers as professional pilots through the [LeRoy W. Homer Jr. Foundation](#).



Melodie Homer serves as president of the foundation named for her husband and also works as a nursing instructor. LeRoy W. Homer Jr. was a graduate of the United States Air Force Academy and served in the Air Force before being hired by United in 1995. The foundation that carries his name offers scholarships to young people aged 16 to 23 and has helped at least twelve young people obtain private pilot certificates since 2003. The foundation's application period for 2012 is now closed, with recipients to be announced on May 31.

<http://www.amazon.com/Where-Stand-Flight-Straight-ebook/dp/B0071F3G2Q>

A Look at World Air Traffic From a Satellite Over a 24 Hour Period

In an interesting time lapse photography video we can see [air traffic around the world](#) as millions of passengers travel around the world. In the video which follows you can see a satellite view of the world air traffic over a 24 hour period. Watch carefully as the circle of illumination moves across the planet. At first you see aircraft leaving the United States in the evening heading to Europe; later in the morning you see the aircraft leaving Europe and heading towards the United States. [FedEx](#) created a video of their own showing their air traffic over a 24 hour period as well:



Pretty amazing stuff when you consider all of the co-ordination this takes!

http://www.youtube.com/watch?v=z1US_4uf4YE&feature=player_embedded

Use the Character Triangle to inspire your team

Our **character** is exclusively ours, and it distinguishes us as individuals. We define it by how we think, what we do and the choices we make. The Character Triangle describes and emphasizes three distinct but interdependent values to apply in our daily thoughts and actions: **Be accountable. Be respectful. Be abundant.** Living with character and applying the **Character Triangle** is a belief and action system. While each of the values specified in the triangle is important in its own right, the most powerful application comes by connecting the values as a system every day, making it a habit.

The triangle, however, is no quick fix. Like developing any good habit, it is a process to be practiced — a never-ending belief system that gets continuously tested, strengthened, shaken, adjusted and buttressed by the day-to-day challenges of living and working in this turbulent world.

Accountability: Accountability starts with the word “self.” When we approach every situation we experience in life by first asking what we personally can do about it and how, we begin to understand the concept of self-accountability. The ideas associated with “blame” and “victim” has little, if any, place in the self-accountable framework.

This is a tricky concept to fully accept and grasp for many of us. We need to ask ourselves daily how often we feel compelled to blame ourselves or others for our condition and circumstances.

Respect: None of us work or live in a vacuum; our successes or failures are all built on the strength of our relationships. And relationships run on respect. To be true to the root of respect, one has to continuously look at one’s self with openness and understanding. The point is to examine the way we treat ourselves first, and then how we treat others.

Most of us want to be listened to with understanding, treated with courtesy, and recognized for our contributions. Do we do that with ourselves?



Then, how much do we do this with others in every interaction? Again, this value can be deceptively oversimplified. I will challenge us on how true we are to this value.

Abundance: Abundant people do not have to take anything away from anyone else to be successful. It is literally fun to work with people who are abundance-focused. They may be competitive but rather than merely to beat someone, the essence of their drive is to advance something.

In fact, abundant people **relish others' successes and achievements**. They also focus on the resources available and finding what they need to get results. Generosity of spirit and the belief that giving leads to getting is part of their makeup.

So how can leaders apply the **Character Triangle** to inspire their team?

Defining and then living the values of the Character Triangle is inspiring at one level because the values support learning and development focused work environment. It is amazing to observe what happens **when blame is viewed as unproductive**, people feel listened to, and generosity and care become the norm in the workplace.

When the boss acts that way, it becomes over time, a **“pay it backward and forward”** way of working. Additionally, the following are a few programmatic ways leaders can inspire others by applying the Character Triangle.

Use a recognition process.

1. At Ryzex, people are encouraged to recognize teammates when they apply the essence of the Character Triangle at work by describing the value demonstrated and positive impact on others in a written way on an “ACE.” Literally thousands of ACES are exchanged between team members annually. Both the nominee and nominator find it inspiring and rewarding to be recognized. People display ACES in full view around their workplace.

2. Blog about stories reinforcing the Character Triangle in action. Stories that are rich in example and meaning are great ways to model and inspire action. At Ryzex I write a CEO blog that reinforces personal experience and the values of accountability, respect and abundance.

I encouraged people to get to know other teammates more (respect), so I interviewed one of our technical supervisors who was a Vietnamese refugee. As a 19-year-old, he captained a leaky ship filled with Vietnamese women and children across typhoon- and shark-infested waters to the safety of a refugee camp in Malaysia. It was a riveting story that few in the company knew.

I then tagged others to be guest bloggers, each one writing something personal about a teammate. The process continues. It is invigorating and builds understanding, to learn more about each of the people in the company.

The above are just two small examples of how leaders can use the Character Triangle to inspire others. [Live it, practice it, implement sincere programs to reinforce it, and I guarantee that you will “rev” up your team.](#) You will be an inspiration ... and so will your teammates.

Looking Inward

Its been three weeks since the New York Football Giants left Indianapolis with the Vince Lombardi Trophy. Entering the final two weeks of the season at 7-7 after a four-game loss, fans didn't feel confident their team would achieve this notable goal.



What happened behind the scene to influence the Giants to be winners again? One answer may be found in the article written by Damon Hack in the February 13, 2012 issue of *Sports Illustrated*. Damon writes: “the director of player development Charles Way invited fighter pilots from *Afterburner Inc.*, a corporate training company, to address the team about the value of “[debriefing](#)” sessions. Pilots returning from missions build trust through sessions in which they sit in a room together, stripped of name and rank; each speaks openly about [mistakes](#) he/she made during the mission. Players also received a copy of a book by one of the pilots, James D. Murphy, the title of which expressed the ultimate goal: [Flawless Execution.](#)”

Soon the team leaders, respectively, were leading offensive and defensive debriefings the day after games. Coaches were not present. Meetings lasted 20 minutes or so. One player said, “I wasn't coaching anybody, [I was just coaching myself](#), looking at what I needed to do better and telling everybody. Then everybody would talk about what they needed to do to improve.”

Could this be a solution for organizations seeking to improve corporate teamwork? In aviation it would take a small commitment just before the end of the shift or at the termination of a flight to use the same philosophy. Share the successes as well as the errors and [looking inward](#), to see what you needed to do to improve.

<http://www.afterburnerseminars.com/>

Husband Day Care Center

