

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

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

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AMT AwardsMechanics

Dec. 31, 2010 was the deadline for AMT AwardsMechanics enrolled in the online FAA William (Bill) O'Brien **Aviation Maintenance Technician (AMT) Awards Program** to earn any training credits for the 2010 calendar year. AMTs may then claim their award in January 2011. Claiming the award during the month of January will allow the individual AMT to print his or her AMT Certificate of Training and request the associated award decal.



For more information on the awards program, go to www.FAASafety.gov/AMT/amtinfo/.

2011 William (Bill) O'Brien Aviation Maintenance Technician Awards Program

- 1st- You must be registered at <https://www.faasafety.gov/login/reg/Register.aspx>
- 2nd- Complete the **mandatory core training** before Dec 31, 2011
- 3rd-Enter your eligible training before Jan 31, 2012 to receive your AMT Award certificate



Award levels

Bronze Award — minimum of 12 hours of eligible aviation maintenance knowledge training

Silver Award — minimum of 40 hours of eligible aviation maintenance knowledge training

Gold Award — minimum of 80 hours of eligible aviation maintenance knowledge training plus complete a career-related college course of 3-credit hours in mathematics, technical writing, aviation safety, human factors, aviation management, or quality control courses.

Courses

Mandatory core training for 2011: [Fatigue Countermeasure Training](#)

Eligible Training: Technical, Safety, Human Factors and IA renewal courses

Happy Birthday, FAA Safety Briefing!

The January/February 2011 issue of FAA Safety Briefing [celebrates the 50th anniversary](#) of the publication by looking back at the enormous general aviation safety strides we have made as a community and by looking to how [we can work together](#) to reduce GA accidents. Also, learn about [ramp safety](#), risk management, and how to outfit your aircraft to improve survivability in case of an accident.

To view this and previous issues go to www.faa.gov/news/safety_briefing/.

Shaping Professionalism and Integrity in Aircraft Maintenance

By Robert I. Baron, Ph.D
The Aviation Consulting Group

January 2011

A number of years ago an experienced and qualified aircraft maintenance technician (AMT) with a tight deadline discovered that he needed a [special jig](#) to drill of a new door torque tube on a B-747.



However, the jig **was not available** so he decided to drill the holes by hand on a pillar drill (an unapproved procedure). Subsequently the door came open in flight and the aircraft had to make an emergency landing. The AMT, in the interest of being a company man and trying to get the aircraft out on time, what is known as a **situational violation**. A situational violation occurs when an AMT, typically with good intentions, **deviates from a procedure** in order to get the job done. The reason for a procedural deviation may stem from time pressure, working conditions, or a lack of resources. This example is not only a classic maintenance **human factors error** but it also speaks to the issue of professionalism and integrity.

The European Aviation Safety Agency (EASA), in its suggested syllabus for human factors training for maintenance, specifically mentions professionalism and integrity as a training topic. **But what is Professionalism and Integrity** and can it even be taught? Merriam-Webster dictionary defines professionalism as “the conduct, aims, or qualities that characterize or mark a profession or a professional person” and defines integrity as “a firm adherence to a code of moral values.” The topic itself can be rather nebulous and in fact difficult to develop into a training module yet its importance is unquestionably a critical part of a **healthy safety culture**.

There is some aviation-specific guidance on teaching Professionalism and Integrity from the Regulator standpoint. For instance, the Civil Aviation Authority of the United Kingdom has a small section in **CAP 716** (a human factors training publication) pertaining to the subject.

Two key points discussed are; 1) employees basically know how to behave in a professional manner but may be limited in doing so due to organizational issues (such as pressure, lack of resources, poor training, etc.) and 2) in a human factors training course it is up to the trainer to determine whether problems with professionalism are on an individual or organizational level and tailor the training accordingly.

Interestingly, CAP 716 does not elaborate of the topic of Integrity as it does with Professionalism, perhaps because it is assumed that both topics overlap. They do to some extent, but Integrity still warrants a bit more elucidation. As defined earlier, integrity is “a firm adherence to a code of moral values.” Based on this definition, this is where things can get interesting. How can an employee adhere firmly to a code of values **that is largely unwritten** and certainly not available to reference in the employee handbook? A code of values is something that is learned through upbringing and life experiences.

By the time a person becomes gainfully employed he or she should have a good idea of what is morally (and/or ethically) right or wrong. Yet, corporate greed and power can cause otherwise good people to cross the fine line of right and wrong. Recent examples include Kenneth Lay [Enron] and Bernard Madoff [Ponzi scheme], both of whom crossed the line and committed egregious violations of integrity and public trust.

In aviation, on a corporate level, while financial scandals are rare, there have still been significant events that have led to **deviations in integrity** based on the pursuit of excessive financial gain. For instance, the crash of American Airlines Flight 191 in Chicago in 1979 was precipitated by events and procedures that were put in place by American's upper level management. Management endorsed the use of a forklift (an unapproved procedure) to change engines on its fleet. What management was not aware of was that using the forklift was creating an unseen crack in the accident aircraft's engine pylon. This crack continued to propagate and eventually caused the left engine to depart the aircraft on its takeoff roll and crash shortly after becoming airborne. Two hundred and fifty eight people (including 13 crew) onboard the aircraft and two people on the ground were killed. The crash of American 191 was an unfortunate example of the integrity line being crossed. It is clear in hindsight that management was trying to save money, albeit in a dangerous manner. The unapproved forklift procedure ostensibly saved time and money and thus allowed the aircraft to spend less time in maintenance and more time generating income.

When upper level management endorses this type of deviant behavior and lower level employees are, by default, "along for the ride," then **a norm develops** and the entire organization is complicit in crossing the integrity line. This was also the case in the events that led to the crash of Continental Express Flight 2574 in 1991 (47 screws were not put back on the horizontal stabilizer during a shift turnover).

The aforementioned organizational failures raise a very good fundamental question about personal integrity; why would the employees go "along for the ride" with these types of breaches in integrity when they know they are working contradictive to approved procedures? Once again it has to do with **norms or the "normal" way business** is being conducted (whether right or wrong). It also has to do with a few social psychological phenomena such as cognitive dissonance and conformity. Cognitive dissonance may occur when a pair of cognitions are consonant (in agreement) and dissonant (incongruous) at the same time.

This may be the case when an employee knows that an incorrect procedure is being used universally but at the same time does not want to speak up **for fear of castigation**.

Similarly, conformity is a strong social psychological phenomenon that occurs when an employee chooses to **“go with the crowd”** rather than stand out as a complainer, loner, non-team player, etc. Conformity can be further exacerbated by the tremendous **peer pressure** that develops in groups. Individual employees need to realize that, although the reasons for not speaking up are understandable, that does not relieve them from the need to speak up. If not, then on a personal level, they are overstepping the bounds of integrity and their actions **may be a contributing factor** in an aircraft accident or incident. Think about that.

The topic of Professionalism and Integrity is clearly not a popular human factors topic. It is reasonable to assume that this is due to its somewhat awkward nature. Trying to **“teach”** the topic can become even more confounding because many instructors have a hard time compiling relevant information. Overall there is not much guidance in comparison to the myriad of other human factors topics. So what is the bottom line of expectations for Professionalism and Integrity for employees? The author proposes **The Ten Commandments of Professionalism and Integrity**:

The Ten Commandments of Professionalism and Integrity

1. **Thou shalt arrive at work on time and be prepared to work.**
2. **Thou shalt keep current on procedures and strive to increase thy knowledge.**
3. **Thou shalt respect thy peers (even if thou doesn't particularly care for them).**
4. **Thou shalt be part of the team effort to make safety a number one priority.**
5. **Thou shalt assert thyself at those times when deemed necessary.**
6. **Thou shalt strive to draw the line between right and wrong.**
7. **Thou shalt not let greed drive deviations from approved procedures.**
8. **Thou shalt not “go with the flow” when the flow is going the wrong way.**
9. **Thou shalt think carefully about what is legally right but morally wrong.**
10. **Thou shalt post a copy of this article in a conspicuous place in thy hangar.**

Instructor Loss of Focus



In the aviation maintenance environment, Technicians may be asked to **play dual roles**, depending on staffing and availability of resources. A Maintenance Upgrade Inspector made **several inspection errors** while trying to train a new-hire Mechanic.

I was an Upgrade Inspector (I am an alternate) on RON [Remain Over Night] shift. I 'Received' [verified tire, make, and wheel half] approximately 100 mixed tires and brakes tires and brakes that evening.... While Receiving the tires, one of our new-hire Mechanics asked if I would be able to help him with a pressurization event he had on his RON aircraft. **I was about halfway through the tires and had the nose and brakes left to inspect when I went and helped** this Mechanic for about 2 hours with his aircraft. After that, I returned and continued my inspections work.

I was notified by another Mechanic that several of the nose tires I had inspected **had improper parts tags** on them. Three tires had been inspected by me. I verified the 3 tires were in fact incorrect and retagged them as they needed to be. I also rechecked the stack of tires and found no other discrepancies....

I fully understand that while working as an Inspector, I work under the **umbrella of Quality Control** and not as a Mechanic. The Upgrade Inspectors are expected to help out with the normal RON workload and act as mechanics when they can. Management never forces this, but they routinely request it and we routinely help when we can.

The contributing [factor]: **Working outside the Inspection work area and losing focus** on the task at hand...In the future, to not allow this kind of problem to occur, **I will focus solely on my inspection duties...**

Alaskan Pilots' Reality Featured On Discovery Channel

The Discovery Channel launches a new reality show this month, "[Flying Wild Alaska](#)," that follows the adventures of Era Alaska, a family-owned company. Era is based in Unalakleet, a small town on the coast near the Bering Strait.



During the show's 10 episodes, "the Tweto family battles Alaska weather and terrain to transport life's necessities to one of the most remote and extreme regions of America," according to. The company was founded with just one airplane serving the local area but now comprises nearly 75 aircraft that fly to destinations across the state. The show focuses on the "quirky" and "passionate" members of the Tweto family -- Jim and his wife, Ferno, and their two 20-something daughters, Ayla and Ariel -- but also includes [plenty of flying action](#), with shots of backcountry landings and flights in extreme conditions. "Mostly it's just about flying airplanes in rural Alaska," Jim Tweto told The Alaska Daily News. The series premieres [Friday, Jan. 14, at 9 p.m. Eastern and Pacific Time](#).

The Discovery crew worked in Alaska from August to November last year to shoot the program. "Battling minus-40F degree winters and hurricane-like winds for months on end, the intrepid pilots of Era Alaska are among the best in the world," says Discovery. "[They combat big storms in small planes](#) -- a scenario only suited for the most experienced, especially with such precious cargo. From champion snow dogs bound for the Iditarod, to medicine for sick children, to groceries for miners working on the North Slope, Era Alaska transports a wide range of goods." Ferno Tweto told ADN the family doesn't receive the Discovery channel at their home, but they plan to watch the program at a neighbor's house. "I'm really pushing to get [a satellite] dish out here," Tweto said.

<http://www.youtube.com/watch?v=yblsazEuPQ8>

10 Decisions to Help Make 2011 Your Best Year Ever

Each January most of us spend some time reviewing the past year and thinking what we can do to make the New Year better. Since the outcome of our lives is largely a reflection of our decisions, it's only logical to conclude that if we want to improve our lives, we must make better choices. If we 2011 to be our best year ever, then it needs to be the year we make our best decisions ever. Here are 10 decisions that, if carried out with consistency over the next 12 months, can make 2011 your best year yet.



1. [Make better decisions.](#) If you agree that your life today is largely a reflection of the decisions you have made to this point, then you are in control of living whatever life you want.

Making good decisions is not difficult if you have a process for making them. I hope you'll take the time to review four posts explaining some of the best methods I've learned.

[Our Lives Are a Mirror Image of the Little Decisions We Make](#)

[How to Consistently Make Good Decisions](#)

[How to Make Critical Decisions](#)

[A Tip to Improve the Accuracy of Your Decisions](#)

2. [Stop thinking about negatives of the past.](#) The past is history. There is absolutely nothing you can do about it today except to learn from it. Put the past mistakes behind you; focus your attention on creating your future.

Let today be the day you say, "Enough is enough! I can't rewind the clock; I refuse to let the negative experiences of the past prevent me from living the life I desire." Don't just say it, mean it and live it this year.

3. [Work from a plan.](#) If you want to increase the odds of achieving your goals, then put together an action plan. Outline the steps you will take and the things you will do to achieve your goals.

Your plan doesn't need to be complicated or sophisticated. Most of my greatest achievements have come from having a clearly defined goal and a list of five to ten core actions that I was committed to doing with consistency.

4. [Grow and develop yourself.](#) I wholeheartedly agree with Ralph Waldo Emerson who said, "Unless you try to do something beyond what you have already mastered, you will never grow."

In 2011 step up your game; reach for the stars; challenge yourself to dig deeper, push harder, and strive to achieve your personal and professional best. As you discover the things you need to do to get better, be intentional every day to do them.

5. [Improve your health.](#) What we see in the mirror and how we feel is largely a reflection of our decisions. Accept responsibility for your health and start making decisions that will allow you to look and feel your best. What good can come from achieving your goals when you can't enjoy them because of poor health?

6. [Make your marriage a priority.](#) Just as your life and health are largely a reflection of your decisions, so is your marriage. Look for ways to compliment and support your spouse. Overlook those faults and weaknesses, remembering that you're not perfect either. If you treat your spouse as your best friend, he or she will likely become your best friend.

7. [Be financially responsible.](#) All around us, we can see what happens to people who don't live financially responsible lives. Avoid that pitfall, and make the decision right now that you are going to live by a budget, spend less than you make, and invest your savings wisely.

8. [Investment more in relationships.](#) You cannot advance your life personally or professionally unless you invest time and energy into building the right relationships. Consider those people who are most important to you; then make the decision that you will become more intentional about doing the little things you know you should do to build more meaningful relationships in 2011.

9. [Become a better parent.](#) When you consider what's really important to you, where do your children rank? Is the time and attention you give them consistent with your answer? The love, attention, and encouragement you give your children will have a greater impact on their lives than what you realize.

As a parent of two married children and two teenagers at home, I can tell you they grow up so fast. Enjoy them today. Make sure the time you invest in your children's lives is consistent with their importance to you.

10. **Become a “Do It Now” person.** One of the greatest killers of achievement is procrastination. Make the decision to become a “Do It Now” person. Nothing is more effective in building your self-esteem than pushing yourself to do the little things you know you should do.

I urge you to print out this post, read it again, and make a decision on each point. As you make each decision, determine your commitment to following through with your decision. Consider the obstacles you will likely face and what you will do when those times come.

The life you live and the happiness and enjoyment that come from it will be based largely on the simple, little decisions you make each day.

<http://itunes.apple.com/us/podcast/little-things-matter/id349111555>

Doodling for better concentration

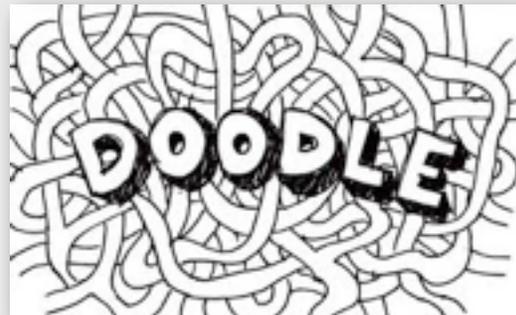
Doodling during the morning staff meeting may seem rude, says LiveScience, but it’s actually a great way to **keep your mind on task.**

Researchers have found that doodling during a boring talk can boost the listener’s memory of what was said.

British researchers forced a group of men and women to listen to a long

voice mail message about a party invite. Half the group was given pen and paper and **a license to doodle**, the other half was told to sit quietly. Later, the doodlers were able to recall an average of 7.5 pieces of information from the message. The non-doodlers remembered only 5.8 pieces.

Researchers believe that doodling keeps the mind concentrated by allowing it **to wander just enough**, “If someone is doing a boring task, like listening to a dull telephone conversation, they may start to daydream,” says psychology professor Jackie Andrade. “A simple task, like doodling, may be sufficient to **stop daydreaming** without affecting performance on the main task.”



Picture This!

The Latest Driver We Don't Want To Be Behind

This guy spent about a half hour hooking this up to drive it across a four-lane road.

And another perfect example of the fact that just because you can doesn't mean you should.

