

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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FAA's Aviation MX Human Factors Quarterly



https://www.faa.gov/about/initiatives/maintenance_hf/fatigue/publications/

AAIB: GIII Pilots Mistook Edge Lights for Centerline

A flight crew **mistakenly aligned** their U.S.-registered Gulfstream III with runway edge lighting when attempting to depart London Biggin Hill Airport (EGKB) bound for Gander on a **foggy evening** in November 2014, according to a recently released report from the UK Air Accidents Investigation Bureau (AAIB). It rolled approximately 814 feet along a paved apron and taxiway to the right of Runway 3 before departing into grass, at which time the crew rejected the takeoff.



There were intermittent patches of thick ground fog shortly before the jet began its takeoff roll at 8:30 p.m.

The crew told investigators they noted a "glow" around the runway lights, but did not believe conditions posed a hazard. Runway 3 lacked centerline lights and is not approved for takeoffs with a runway visual range (RVR) of less than 400 meters (1,312 feet). The airport was not equipped to measure RVR, but the crew noted that U.S. FAR Part 91 leaves takeoff visibility requirements to the discretion of the PIC.

Gulfstream N103CD incurred significant damage to its landing gear and fuselage during the mishap, though the two pilots and five passengers were not injured. The AAIB recommended that ICAO [develop a global standard](#) to better differentiate runway edge lights from other airfield lighting.

FAA and GA Community Are Making the Skies Safer

Statement from FAA Deputy Administrator Mike Whitaker:

The United States has the largest and most diverse GA community in the world and we are all working together to put [the right technologies, regulations, and education initiatives](#) in place to improve safety. While the fatal accident rate is beginning to decline, too many lives are still being lost. Last year, 384 people died in 238 general aviation accidents. While we still have more work to do, the GA Joint Steering Committee's work on voluntary safety measures is making a difference.

There's also no question that ADS-B is one of NextGen's most important safety technologies, and we're continuing to work closely with the Equip 2020 team to get it into more general aviation aircraft.

We've also made considerable progress on regulations that will enhance general aviation safety with our recent proposed Part 23 rule that will help us decrease the time it takes to get safety-enhancing technologies for small airplanes to the marketplace. [Loss of Control remains our greatest concern](#). Through the Fly Safe education campaign we've had 35 million impressions on social media platforms.



Thank you to our industry leaders who participated in today's GA Safety Summit. Together, government and industry are building on our momentum and commitment to improve general aviation safety.

<http://www.faa.gov/news/updates/?newsId=84506>

Hallmarks of Aviation Safety Remain Education and Individual Responsibility

by John Goglia

The **NTSB's 2016 Most Wanted list** of transportation safety improvements makes it clear to me how many of the recommendations come back to **individual accountability and responsibility**, especially the importance of keeping up-to-date with the latest safety information and taking responsibility for one's own decisions. This is true for every level of aviation, from GA to the largest airlines, repair stations and manufacturers. It is especially true for general aviation because there is no corporate structure to share responsibility for, say, training or scheduling. For GA pilots and mechanics-including pilots and mechanics at small corporate operations-it's **really all up to you to seek out** the education you need to operate safely and to hold yourselves personally responsible.

Some recommendations show up on the top-ten list year after year. That's OK; sometimes the problems are difficult to deal with. But that doesn't mean we don't keep trying. Seven of the NTSB's 10 recommendations this year are applicable to aviation and can be implemented, at least to some extent, by aircraft owners and individual pilots.



The recommendations are:

- Reduce fatigue-related accidents
- Disconnect from deadly distractions
- Require medical fitness for duty
- Strengthen occupant protection
- Prevent loss of control in flight in general aviation
- End substance impairment in transportation and
- Enhance use of recorders to improve transportation safety

Several of the recommendations cross occupational lines and are as applicable to mechanics, air traffic controllers and dispatchers as they are to pilots, even if the NTSB doesn't specifically call out all those occupations. The two most insidious issues have the broadest applicability across aviation: fatigue and unintentional substance impairment.

PERSONAL ACCOUNTABILITY FOR FATIGUE MANAGEMENT

Although the Board does not officially rank the importance of its recommendations, I don't think it's happenstance that fatigue is number one on the list. Not only does it affect safety across transportation modes and across occupations, but it is also one of the most difficult issues to deal with in our 24/7 world. Add to that the research finding that [fatigue masks fatigue](#); as the NTSB points out, "Fatigue actually impairs our ability to judge just how fatigued we really are." While the focus of this recommendation is on vehicle operators, the need to stay awake, alert and attentive is critical across safety disciplines. The Board notes, "Human fatigue is both a symptom of poor sleep and health management and an enabler of other impairments, such as poor judgment and decision making, slowed reaction times and loss of situational awareness and control. Fatigue degrades a person's ability to stay awake, alert and attentive to the demands of controlling their vehicle safely."

While the NTSB recommends additional research, "sleep experts say most adults need between [seven and nine hours](#) of sleep each night for optimum performance, health and safety." While many factors can influence fatigue—including environmental factors such as temperature, noise, light and even vibration—individuals can at least focus on getting enough sleep each day. And they can read up on fatigue and fatigue management. This might involve making tough decisions about how we spend our free time, but they are decisions that are ultimately critical to our own safety and the safety of others.

The NTSB cites the 2013 UPS crash in Birmingham, Ala., as support for the importance of this recommendation. In its accident report, the NTSB highlights the issue of [personal accountability for off-duty time management](#), as well as fatigue awareness: "Review of the first officer's use of her off-duty time indicated that she was likely experiencing fatigue, primarily as a result of improper off-duty time management. Even though the first officer was aware that she was very tired, she did not call in and report that she was fatigued, [contrary to the UPS fatigue policy](#)." The first officer apparently used her time off to visit a friend instead of sleeping. Although the NTSB's example is an air carrier flight, [GA pilots would do well to add fatigue to their preflight checklist](#): at a minimum did they get seven to nine hours of sleep the night before?

Maintenance workers can affect aviation safety (and their own) just as much when they work fatigued. Hangars and ramps are dangerous places, even more so when you're working tired. A recent UK accident investigation highlighted the impact of fatigue in a catastrophic engine failure on a British Airways Airbus A319 on takeoff from London Heathrow Airport. In this accident, the precipitating factor was that the engine fan cowl doors detached on takeoff because they had not been properly closed and latched after routine overnight maintenance. The A319 was substantially damaged and the crew had to make an emergency landing. The accident report details not only the obvious failures to comply with maintenance manual procedures but also [less obvious contributing factors](#) that left the cowling doors unlatched, including the mechanics' schedules and likely effects of fatigue.

RESPONSIBILITY FOR LEARNING ABOUT SIDE EFFECTS OF LEGAL DRUGS

The NTSB's research of drug use among pilots killed in crashes found "the prevalence of potentially impairing drugs increased from an average of 11 percent of fatally injured accident pilots during the period from 1990 to 1997 to [an average of 23 percent](#) of accident pilots during the period between 2008 and 2012. During the same time frame, positive marijuana results increased to 3 percent from 1.6 percent. But the most commonly found impairing substance in fatal crashes was [diphenhydramine](#), a sedating antihistamine found in over-the-counter medications."

As more states legalize marijuana, pilots-and others performing safety-critical functions-need to remember [that it remains a prohibited substance in aviation](#). But aviation workers need to be cautious about any medications they take. For prescription drugs, pilots need to specifically ask their doctors about any effects on flying. Mechanics and others need to ask about effects on handling machinery.

With non-prescription drugs, it's important to read the label for the presence of diphenhydramine, which can cause sleepiness. When planning for a flight, adding medications to your checklist might be a start. And while the NTSB doesn't specifically mention mechanics and other aviation workers, drugs for common ailments such as allergies or colds can affect the work that they do.

These are just two areas of the NTSB's Most Wanted list of transportation safety improvements. But every day, aviation workers make decisions that can affect their own lives and the lives of others. Aviation safety hinges on continuing education and responsible decision-making, and nowhere is that responsibility more personal than in general aviation.

Reports Indicate He Cited An 'Unbearable Schedule' Flying For The Airline

The pilot of the FlyDubai airliner that went down recently in Russia fatally injuring all 62 people on board was flying one of his final flights, according to a Russian media outlet.

The U.K. newspaper *The Daily Mail* reports that the pilot, 37-year-old Aristos Sokratous of Cyprus, had tendered his resignation to FlyDubai citing an "unbearable schedule" with the low cost airline. He reportedly had signed on with Ryanair, and was scheduled to return to Cyprus soon. A former FlyDubai captain who requested anonymity told the Russian news service *RT Novosti* that Sokratous was resigning because of the schedule. "He was too tired, going to work fatigued, and that is actually why he had resigned," the source said.



The Russian news outlet said it had obtained the flight log for the co-captain of the flight, Alejandro Cruz Alava, which showed he had worked flown 11 days in a row with only one day off prior to the to the accident.

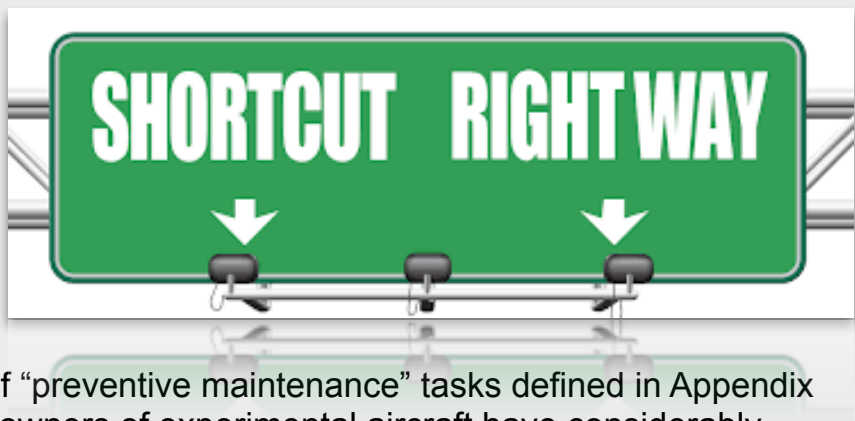
Sokratous had previously worked for Helios airways, a Cypriot airline that folded after a 2005 accident which fatally injured 121 people. He had been promoted to Captain by FlyDubai 18 months ago, according to a friend.

The newspaper *The National* reports that Russian Prime Minister Dmitry Medvedev has ordered aviation officials to examine that country's flight safety rules to see if any changes need to be made following the accident.

No shortcuts

Mechanically inclined aircraft owners find it natural to undertake some periodic maintenance and troubleshooting chores on their own machines. Those flying certified models require adult supervision (in the form of a sign-off from an A&P) to go beyond the list of “preventive maintenance” tasks defined in Appendix A, Part (c) of FAR 43, while owners of experimental aircraft have considerably broader scope. In either case, [the legal right to attempt a task doesn't assure the ability to perform it correctly](#). On the morning of July 25, 2015, an amateur-built Zenith CH 601XL based in Louisville, Kentucky, stopped to refuel at the Porter County Regional Airport just outside Valparaiso, Indiana. At 10:17 a.m. it took off again, bound for Oshkosh. It did not arrive. A search was initiated after the passenger's wife reported it missing, and early the following afternoon the Civil Air Patrol located the wreckage in an open field about 220 yards from the north end of a 2,000-foot grass strip in southeastern Wisconsin. Both the 69-year-old pilot and the passenger had succumbed to traumatic injuries. Investigators subsequently interviewed two witnesses who'd seen the airplane “corkscrewing” into the ground in an apparent spin about 11:15 a.m.

One of the two also described its propeller as [“just sitting there, not spinning,”](#) an impression confirmed by examination of the wreckage. One blade was undamaged, free of scratches or abrasions; the other had been snapped into three pieces. The fuel selector was set to the left tank, which contained clean, uncontaminated avgas; so did the gascolator and carburetor float bowl.



Zenith's advertising suggests three preferred engine choices for the CH 601XL. This airplane's builder had chosen the Jabiru 3300A, an air-cooled, horizontally opposed, six-cylinder, direct-drive model expressly designed for aircraft use. Instead of conventional magnetos, it uses permanent magnets mounted on the flywheel to excite sparks in two solid-state coils, each of which fires one set of spark plugs through an automotive-style distributor.

Upon examination, Jabiru's U.S. representative found that the coils installed on the accident airplane "were not genuine Jabiru ignition coils and that the lead from the right ignition coil was loose in the distributor cap socket." The left coil would not produce any spark. The right one fired, but the central tower of the distributor cap had broken off "due to bending forces applied to the ... socket." The engine ran normally after the right coil was connected to the left distributor, and again after replacement of the right distributor cap.

A friend and hangar mate of the pilot recalled that the previous year, they'd traced an in-flight vibration to "very weak spark," which they'd addressed by replacing both coils. According to the friend, "The accident pilot bought replacement coils at a mower shop as he was told they were the same." (Numerous entries in Jabiru enthusiasts' Internet discussion boards suggest that identical coils are used in certain Honda generators and lawn mowers.) The friend had helped the pilot install the replacement coils, which seemed to cure the problem. However, before the trip to Oshkosh, the Zenith's owner decided to swap them for upgraded versions to improve cold-starting performance. He'd ordered these directly from Jabiru.

The recommended method of installing the coils uses a pair of feeler gauges to maintain the correct spacing between the flywheel magnets and the pick-up circuits built into both mounting brackets. The magnets are so strong that relying on a single gauge while tightening one bracket at a time risks allowing the other side to slip, and contact between the magnet and the bracket can generate enough frictional heat to cause the coil to fail in service. When they'd made the initial replacement, the friend hadn't been satisfied with the results using a single gauge and had gone out and bought a second. The airplane's owner, however, still had only one.

Arriving at the hangar on a Saturday morning to help with the replacement, the friend instead found the Zenith gone and the cold-start coils sitting on the workbench ... with one mounting bracket showing the telltale purple discoloration of overheating. He surmised that the pilot and his passenger (who was "new to aviation and not familiar with aircraft engines or their wiring") had reinstalled the "mower coils," still using a single feeler gauge.

The NTSB concluded that the pilot had stalled the airplane, allowing it to enter a spin, after the combination of the broken right distributor cap and the in-flight failure of the left coil stopped the engine.

An old adage recounts the steps through which the lack of a single horseshoe nail caused the downfall of a kingdom. Here, it seems entirely too possible that [the want of a simple, inexpensive hand tool cost two lives](#). It's a further reminder that when the consequences of an engine failure are greater than pulling off the side of the road, it's best to take no shortcuts.

http://www.ecfr.gov/cgi-bin/text-idx?node=pt14.1.43#ap14.1.43_117.a

Florida Tech College of Aeronautics Launches Academic Publication

International Journal of Aviation Sciences Designed to Foster Discussion

Florida Institute of Technology's distinguished College of Aeronautics has launched a [biannual scientific publication](#) designed to foster an exchange of ideas about a particular topic while also presenting more traditional research content. *International Journal of Aviation Sciences* is online only and free to authors and readers. The first issue, published March 1, can be found at www.ijas.us. The format distinguishes *IJAS* from other academic journals: Each issue will have a target article and four "commentaries" from readers, as well as a response from the author. There will also be three additional research articles.



The target article in the inaugural edition is, "A Taxonomy of Applied Research Categories as an Aid to Research Pertaining to Aviation" by David Trafimow of New Mexico State University.

IJAS will accept both basic and applied research on a variety of topics, including aviation psychology, [aviation human factors](#), airport design and management, aeronautical engineering, aviation sustainability and training. It will use a double-blind peer-review process where the identity of reviewers and authors are not revealed to each other.

There are not many journals in aviation, and fewer yet that are open to coverage of the depth and breadth of the field, from space to UAVs, noted Stephen Rice, the journal's editor in chief and an associate professor in the College of Aeronautics.

"International Journal of Aviation Sciences fills an important niche in aviation," Rice said. *"We look forward to presenting important research and critical ideas that will challenge our peers and strengthen our field of study."*

<http://www.ijas.us/>

Hangar Rash Research Request

Hello, my name is Mary Popko and I am a student at San Diego State University currently working towards a B.S. in Statistics. I would like to request your participation in my survey regarding 'hangar rash', a term commonly used to describe the [unnecessary damage that many aircraft sustain on the ground](#), while being maneuvered in the airport environment. The survey takes less than thirty seconds to complete. I hope to shed some light on this subject and would be happy to share my paper with anyone who is interested.



Survey Link: <https://www.surveymonkey.com/r/TLW5KZ6>

Becker Helicopters Develops Unique Way To Promote Safety

Jan Becker, CEO of Becker Helicopters Pilot Academy and a member of the HAI Board of Directors, last year implemented a clever way to increase safety awareness throughout her company, co-owned with her husband Mike, the chief flight instructor. Now the idea [is gaining interest among participants](#) in the Rotor Safety Challenge taking place at Heli-Expo 2016. According to Michael Yip, Becker's director of maintenance, the prize of the initiative was attendance at Heli-Expo for two winners, one a maintenance technician and the other a flight instructor. These are, respectively, Craig Beardsmore and Jesse Marshall. Their main purpose in coming to the convention is to complete the Rotor Safety Challenge.

Last year all Becker Helicopters Pilot Academy employees were encouraged to [accumulate 1,500 minutes of safety-oriented activities](#), which included doing safety challenge courses, giving presentations, holding safety meetings, mentoring others and creating, showing or otherwise using safety videos. The goal for this year is to accumulate [2,016 "safety" minutes](#).

Selection of the two "winners" was done by peer recommendations, Yip told **AIN**. Beardsmore and Marshall said they are very impressed with the Rotor Safety Challenge Courses they had completed as of Wednesday morning.



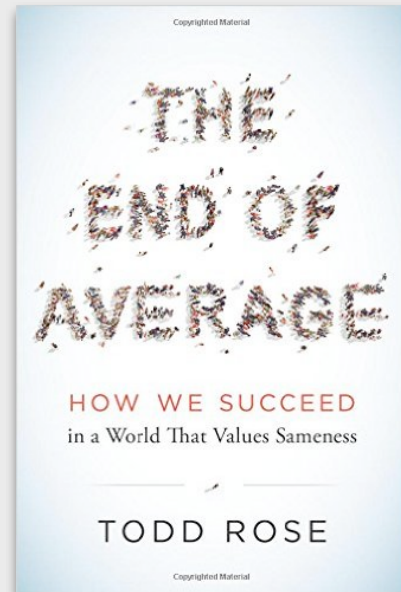
BOOK: The End Of Average!

[When U.S. air force discovered the flaw of averages](#)

In the early 1950s, a young lieutenant realized the [fatal flaw](#) in the cockpit design of U.S. air force jets. Todd Rose explains in an excerpt from his book, *The End of Average*.

The U.S. air force measured more than 4,000 pilots on 140 dimensions of size, in order to tailor cockpit design to the "average" pilot. But it turned out the average airman didn't exist.

Out of 4,063 pilots, not a single airman fit within the average range on all 10 dimensions. One pilot might have a longer-than-average arm length, but a shorter-than-average leg length. Another pilot might have a big chest but small hips. Even more astonishing, Daniels discovered that if you picked out just three of the ten dimensions of size — say, neck circumference, thigh circumference and wrist circumference — less than 3.5 per cent of pilots would be average sized on all three dimensions. Daniels's findings were clear and incontrovertible. *There was no such thing as an average pilot.* If you've designed a cockpit to fit the average pilot, you've actually designed it to fit no one.



Excerpted from [The End of Average](#) by L. Todd Rose © 2016. Published by HarperCollins Publishers Ltd. All rights reserved. Illustration used by permission of the Cleveland Museum of Natural History.

Athletes awaken to the link between sleep and sports performance

Research says sleeping longer makes athletes play better, and teams tracking sleep stats to find advantages.

Rangers slugger Prince Fielder took part in a sleep study after having trouble getting rest during spring training. Increasingly, pro athletes and teams are *becoming more aware* of the link between proper rest and success.

As a kinesiology student Alex Malone has a keen awareness of the link between recovery and performance, but didn't always think it applied to him.

One day last winter the star running back at U of T headed into an intense weight training session on five hours sleep, but still figured he could dead-lift 600 pounds.

He made the lift, but as he put the barbell down blood trickled from his nose. Then it flowed. And then he admitted to himself he wasn't sleeping enough to support his heavy lifting.



"Sometimes I've had enough rest days that I should be performing well, but [I'm physically and mentally exhausted](#)," says Malone, who sleeps seven hours a day in season but less than six over the winter. These days, athletes at U of T regularly complete sleep questionnaires to help coaches manage their workloads, and across the broader world of high-level sport sleep is getting more attention than ever.

Last week, fitful sleep forced Texas Rangers first baseman Prince Fielder to leave spring training in Arizona and head to a sleep clinic, where he was diagnosed with sleep apnea.

In Florida, the New York Yankees pushed practice time back to noon to allow players to sleep later and perform better.

It's not just a matter of telling players to get more rest. Increasingly, teams are tracking sleep like any other stat, using the data they glean to adjust schedules and [gain an edge in competition](#).

The Raptors are one of a growing number of pro and NCAA outfits working with Vancouver-based Fatigue Science, a small firm that provides sleep monitoring data for clients in high-level sports and heavy industry.

"We've seen this shift from subjective to more objective data," says Jeff Zeilstra, Fatigue Science's account executive for high performance. "We're getting real-time insights into (athletes') cognitive effectiveness and their fatigue scores daily and weekly."

The focus on sleep isn't brand new.

The Vancouver Canucks first connected with Fatigue Science in 2011, while coaches at Northwestern University first employed wearable sleep monitors on football players in 2013. Last winter, the Raptors were among several NBA teams to ditch the traditional morning shoot-around, opting instead to let players sleep in.

While players report feeling better, the evidence of the benefits of enhanced sleep runs deeper than anecdotes.

Zeilstra says Fatigue Science licenses software developed by the U.S. military and employs an algorithm that predicts the erosion of an athlete's reaction time based on their sleep scores. According to the model, an athlete who scores 90 will react 25 per cent more quickly than one who scores 70.

In 2013, the American Academy of Sleep Medicine published the results of a three-year survey of major league baseball players that asked them to report their levels of sleepiness. Among players who reported fatigue in 2010, 39 per cent were still in the league in 2013 compared with 72 per cent of players who reported low levels of sleepiness.

Researchers at Stanford University found that three-point shooting accuracy increased by 9.2 per cent after basketball players were asked to up their sleep to 10 hours daily.

[“Athletes are going to these crazy extents to make themselves better](#), with gas masks and all these different things,” says Adrian Lightowler, U of T's head strength and conditioning coach. “The two we hit them with all the time: [hydrate and sleep](#). That's the two easiest things you can possibly do to make yourself significantly better.”

Lightowler points out that sleep helps athletes recover by boosting growth hormone while limiting cortisol, a stress-related hormone that suppresses immunity and breaks down muscle tissue. But he acknowledges scheduling sleep is a tougher task for university athletes, who balance practice with classes and tests.

Volleyball standout Denise Wooding remembers her first year at U of T as a hard lesson in the importance of sleep.

“Once you don't get a good sleep you can't focus on class and you have to go through everything twice just to make up for what you missed,” says Wooding, who just finished her fifth year of eligibility. “You feel bad at practice and you're not recovering, so you're always sore. Then you feel like you need more sleep but you don't have time.”

Zeilstra says the goal isn't just getting athletes to sleep better, but to use sleep data as part of an integrated approach **to boosting performance** and avoiding injury. A soccer team, for example, can pair sleep stats with data gleaned from wearable GPS units to determine which athletes are fresh and who can use a recovery day.

He also says clients commonly consult with his company on travel schedules, adjusting flight times to optimize sleep. Soon, athletes will be able to access sleep stats on a mobile app and receive updates to help them schedule rest.

"We're going to start to get **really granular** on this as it pertains to an athlete's competition," he says. "Sleep is the foundation for health and performance, and we're trying to get these athletes two or three per cent better."

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

The Most Important of All Human Qualities

Of all human qualities, I would argue that **Integrity** is the most important. Why? If people don't trust you, it doesn't matter how many great attributes you possess, they won't respect you, nor will they follow you.

How about you? When people have been deceptive, misleading or have cheated or lied to you, do you still respect them? You can build a relationship of 20 years and destroy it in 30 seconds by crossing the line and doing something that causes someone to question your integrity.

When people have given me reason to question their integrity, I can forgive them; I can even love them; but it's painfully hard to ever trust them again.



Trust is one of those rare things that when it is lost, it's almost impossible to regain.

If you want to achieve long-term success in your career, you must absolutely be a person of integrity. Sure, people can get to the top without integrity, but all we need to do is turn on the news or read our local paper to see they don't stay at the top. Those people who lack integrity will eventually be exposed and when they are, their world will come tumbling down.

I listened to an interview with Dave Ramsey on the *Success Magazine* monthly CD. Dave talked about best selling author, Tom Stanley's books, *The Millionaire Next Door* and the sequel, *The Millionaire Mind*. Stanley's research demonstrates that first generation deca-millionaires (those with a minimum net worth of 10 million dollars) statistically had 38 behaviors or traits in common. **The number one value was integrity.** Their vendors, friends and even their fierce competitors commented that they had fanatical levels of integrity.

Dwight D. Eisenhower said, "The supreme quality for a leader is unquestionably integrity. Without it, no real success is possible... If a man's associates find him guilty of being phony, if they find that he lacks forthright integrity, he will fail. **His teachings and actions must square with each other.** The first great need, therefore, is integrity and high purpose."

Not only is personal integrity critical to achieving wealth, but it is also significant in building a strong **self-image**. After all, how can you feel good about yourself when you are doing things you shouldn't be doing?

Integrity is equally important in our personal relationships because it is the foundation from which all great friendships and marriages are built. Nothing will destroy a friendship or a marriage faster than a lack of trust.

Not only do you want to be viewed as a person of integrity, but over time you want to be viewed as a person with unquestionable or as Tom Stanley says, "fanatical integrity".

Unquestionable integrity means people who know you won't ever question your integrity because you've never given them a reason to do so. This level of integrity is built over time by being authentic, forthright and always doing what's right.

Let me encourage you to never, not even once, for any reason—do something that could cause people to question your integrity. No matter what it is, it isn't worth it in the long-term. Few things spread faster than the fact that someone can't be trusted. And besides, when you always tell the truth, you never have to remember what you said.

“Have the courage to say no. Have the courage to face the truth. Do the right thing because it is right. These are the magic keys to living your life with integrity.” –W. Clement Stone

About the Author:

Todd Smith has been a successful entrepreneur for 34 years and married for 30 years. Todd teaches the "Little Things" that influence our personal and professional success.



[Click here to visit the site, share this post or leave a comment.](#)

Motor Vehicle Deaths Increase by Largest Percent in 50 Years

Preliminary estimates show 8% increase in 2015 than in 2014; substantial changes in some states.

Preliminary estimates from the [National Safety Council](#) indicate motor vehicle deaths were 8% higher in 2015 than they were in 2014 – the largest year-over-year percent increase in 50 years. The Council estimates 38,300 people were killed on U.S. roads, and 4.4 million were seriously injured[i], meaning 2015 likely was the deadliest driving year since 2008. Over the last year at the state level, the NSC estimates Oregon (27%), Georgia (22%), Florida (18%), and South Carolina (16%) all experienced increases in fatalities, while only 13 states showed improvement. Among them, New Mexico (-20%), Kansas (-7%) and New Jersey (-2%) experienced substantial decreases.

"These numbers are serving notice: Americans take their safety on the roadways for granted," said Deborah A.P. Hersman, NSC president and CEO. "Driving a car is one of the riskiest activities any of us undertake in spite of decades of vehicle design improvements and traffic safety advancements. [Engage your defensive driving skills and stay alert so we can reverse this trend in 2016.](#)"



The estimate is subject to slight increases or decreases as data mature. NSC has issued annual traffic fatality estimates since 1921.

Over the last three years, preliminary estimates have fallen within 1% of final counts.

While many factors likely contributed to the fatality increase, a stronger economy and lower unemployment rates are likely at the core of the trend. Average gas prices were 28% lower in 2015 than in 2014 and are projected to continue dropping this year,[ii] making driving more affordable for many Americans. The U.S. Department of Transportation estimates a 3.5% increase in the number of miles driven in 2015 compared to 2014[iii].

To help ensure safety, the Council recommends drivers:

- Make sure every passenger buckles up on every trip
- Designate an alcohol- and drug-free driver or arrange alternate transportation
- [Get plenty of sleep and take regular breaks to avoid fatigue](#)
- Never use a cell phone behind the wheel, even hands-free
- Stay engaged in teens' driving habits, as teens are three times as likely to crash as more experienced drivers.
- Learn about your vehicle's safety systems and how to use them. *My Car Does What* can help drivers understand features such as adaptive cruise control, blind spot warning systems and backup cameras.

Supplemental estimate information can be found [here](#).

<https://mycardoeswhat.org/>

Airline mechanics compete to be the fastest and safest

How fast can mechanics remove and replace an engine starter on a jet engine?

For American Airlines mechanics John Giglio and Andrew Tepoele, less than eight minutes.

The mechanics were part of American's DFW team competing in the Snap-on Aerospace Maintenance Competition held in Dallas this week. There were 51 corporate and college teams competing to see who could fix aircraft windshields, place the

correct tension in flight control cables and change a Gulfstream tire in the [fastest time with the fewest errors](#). "This reminds the public, and to an extent our own industry, of what we provide," said Ken MacTeirnan, chairman of the competition. "After more than 100 years of aviation, technicians and engineers have stayed lock step with every advance in technology and we have to, to do our jobs...We're taking this opportunity to provide a world stage where we, the AMC, can shine the light of recognition to say, guys and girls, [thanks for all that you do](#)."

MacTeirnan, who is also an aircraft maintenance technician at American's operations in San Diego, said the competition has been conducted for the past eight years and continues to grow as more companies, like Southwest Airlines, United Airlines, Boeing and Qantas, send teams to the competition.

I've been doing this now for 33 years and you can never stop learning.

The competition also gives college students involved in aeronautical mechanics programs the chance to tackle difficult technical problems and to watch professionals practice their trade.

"It's important to have younger people excited about this. ... [We need to bring new blood into the aircraft mechanics field](#)," said Edward Kempa, a mechanic on American's DFW team.

There are 25 events in which mechanics have 15 minutes to solve a problem and correctly perform a repair. American brought three teams to the event, one from Dallas/Fort Worth, another from Charlotte and a third from Tulsa. Southwest Airlines also had a mechanics team at the competition.



For Tepoele, who works at the DFW hangar for American, the hardest event was related to weights and balances because it involved different calculations and several formulas that commercial airlines typically have software programs perform.

"It's a good challenge. It's something to learn," Tepoele said. "I've been doing this now for 33 years and you can never stop learning."

FATIGUE POSTER

