

THE MARKS OF AN AIRMAN

By Tony Kern



The Marks of an Airman:
Establishing standards and overcoming obstacles
in the search for professionalism

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The Marks of an Airman

Establishing standards and overcoming obstacles in the search for professionalism

by
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There is no cookie cutter for creating great airmen. Although the airmanship model¹ provides a means for seeking higher standards and professional and personal development, it is doubtful that any two aviators who follow this path will end up with the same result. We are all unique, and bring our own special talents, strengths, and weaknesses to flying. We should not expect -- or seek -- uniform results from a quest for professionalism. However, there are some common traits that are too important for relativistic interpretation, beginning with what it means to be a professional.

The need for standards

Every profession has established and accepted standards that are used as benchmarks for assessment, competition,

¹ The Airmanship model is a historical model of what has worked in aviation for over nine decades. It is the product of a five-year research project by Tony Kern, and is detailed in *Redefining Airmanship* (McGraw-Hill, 1997). The research and book won the USAF Academy's "McDermott Award for Research Excellence" given annually to the top research effort from over 400 faculty members. It postulates ten elements of airmanship excellence; discipline, skill, proficiency – a knowledge of self, team, aircraft environment (physical, regulatory, and organizational), and risk. High states of situational awareness and judgment flow from these attributes and complete the historical picture of aviation excellence. Kern's position is that individuals vary greatly and "one size fits all programs" are doomed to marginal results.

evaluation, and self-improvement. Yet the flying game is curiously void of anything more than a small set of skill-based criteria for individuals to gauge their own personal development. These criteria generally come in the form of flight evaluation standards, such as airspeed and altitude deviation tolerances for training and periodic check ride evaluations. The reasons for this peculiar lack of standards are debatable. Perhaps the origin of this apathy can be traced to the modes of career advancement within aviation career fields.

In commercial aviation, advancement and promotion are tied primarily to seniority. This is certainly not to say that commercial aviators do not need to be skilled -- they certainly do. But once a certain level of competence is reached, there is often no incentive -- beyond personal pride and professionalism -- to strive for a higher level of expertise. I have interviewed scores of commercial pilots from around the world and many are content to fly the schedule, pocket their paychecks, and go on about their lives. Military aviation is not significantly different in this respect.

Promotion for a military aviator is based upon a variety of attributes, but it is certainly not necessary to maximize your airmanship potential for a military aviator to get promoted. Of course one must be competent, but if a typical military jet jockey meets qualification requirements and stays out of trouble, promotions take care of themselves -- at least for the first 20 years. Striving for personal airmanship excellence is not a requirement for promotion. In fact, many military aviators believe that staying in the cockpit too long can actually hurt

their chances for promotion. The so-called “whole person” concept requires that a military aviator spend much of their time on outside activities such as obtaining a Master’s degree, completing professional military education (PME -- which has nothing to do with airmanship) and other career broadening activities.

General aviation certification requirements also do little to inspire an aviator to seek high levels of personal achievement. Once a particular rating or certificate is obtained, the external motivation is gone, unless one seeks a higher certification or rating or is lucky enough to have mentors or peers to inspire them to higher goals.

All of these factors may account for the lack of a comprehensive set of professional airmanship standards. Perhaps none have been developed because we thought none were needed. A combination of seniority, experience, and basic competence has traditionally satisfied the requirements for climbing the career ladder or achieving the necessary competence to practice our hobby. But we may have been missing something. While comprehensive airmanship standards may not have been necessary for organizations -- they are absolutely essential for individuals who wish to improve themselves. Loss of efficiency, effectiveness, and compromised safety continue to result from poor airmanship and human error mishaps. As an industry, we have searched for decades to find an answer for this problem. It may have been closer than we thought.

Personal improvement and peer to peer accountability are the keys to greater safety. By establishing a clear -- albeit uphill -- path to good individual airmanship, those who seek self-improvement can do so through systematic means. Any one of us who has the will power and discipline to improve can tackle the ills that plague aviation as a whole. The cultural change towards good airmanship occurs from within -- flyer by flyer -- until the judgment error mishap becomes the exception rather than the rule. The day is coming and the means are here. There are several inhibitors to personal improvement. The first was the lack of an accepted definition and model for improvement. In theory -- if not yet in practice -- the Airmanship Model has remedied this oversight. But there are other, more personal reasons pilots choose not to seek higher professionalism.

Three personal obstacles

There is little doubt that the pace of life has increased significantly in recent years. At the dawn of the 21st century, if modern professionals are going to take a serious approach towards personal improvement, they will have to *make* time for it. The desire must come from within, because there are significant obstacles in our way.

Neglect

The first personal obstacle to professionalism and continuous improvement is entropy born of simple neglect. Often, an aviator is content to rest on his or her laurels after achieving a professional goal. Perhaps a new rating, a promotion to Captain, or a job with a new company gives a pilot the

opportunity to relax, and then they forget to reenergize. When people fall away from professional growth, it doesn't happen in an instant. It happens slowly, through disregard for changing regulations or technical manuals. Before long, they are far enough behind in several areas to make the effort to recover significantly difficult. They rationalize that because everything has gone well so far, perhaps they don't really need all of that study, skill and proficiency. Just like any living thing, professionalism dies through neglect. As neglect is a process, so is its remedy. Center on one area, and do something to revive it. One step at a time, strike a match and tend the fire of professional growth. Occasionally, however, it is not the will – but the energy – that is lacking.

Exhaustion

Exhaustion often emerges in the individual who finds him- or herself chained to a high stress job or a series of unending professional and personal demands on their time. This person sometimes turns to aviation as an outlet- a form of therapy to escape the fatiguing drudgery of day-to-day life. While aviation is indeed a wonderful tonic, it *demand*s focus, concentration and attention—all of which can be seriously and dangerously degraded by mental or physical exhaustion. The “therapeutic flyer” will likely have very little energy for the advancement of professional study. In a culture that rewards workaholics and sneers at underachievers, burn out and exhaustion are very real threats to safety and attention to detail. When you take a stress-dulled mind into the sky, it can – and often does - end tragically. Self-awareness is key to understanding and coping with

exhaustion, as well as the next obstacle to personal improvement.

Compromise and comparison

The third danger to enhanced professionalism is simple compromise, which occurs when a rationalization process begins to degrade solid standards and personal potential. It can happen in many ways, perhaps peers, or even well-respected superiors are demonstrating less than professional attitudes and behaviors. The temptation to mimic their behavior can be strong, but if the herd instinct is one of compromise or apathy – it must be resisted if personal professionalism is to be advanced. Or maybe you see your personal professionalism as adequate because you are “much more professional” than some other individual. The *Desiderata* gives solid advice. “Do not compare yourself to others, for always there will be those both greater and lesser than yourself.” I like to think of this fallacy of comparative assessment using a track and field sports analogy from my own background.

Back in the Paleolithic age, I could long jump a bit past 22 feet, pretty good for a 17 year old in that day and age. I won a few events and felt pretty good about myself when I was around my high school peers. I didn't really see the need for improvement or practice. Then I saw Carl Lewis (the world record holder in the event) jump over 28 feet—and my sense of adequacy diminished greatly. Lewis was a true professional, and frequently said that he felt *30 feet* was within the reach of a human being, although probably not him. He stated further that although he doubted he would ever reach it, but would continue

to pursue it until he became too old to jump, and then would coach someone else towards the goal. Lewis understood professionalism, I understood complacency and compromise. It was at that early point in my life, I began to understand that good was the enemy of great.

Organizational obstacles

The second inhibitor is motivation for individual improvement, and that is where organizations can still play a critical role.

The organization's role

Even the best-intentioned individuals need motivation to improve. The aviation organization -- be it governmental, commercial, military, or general aviation -- can and should provide incentives designed to motivate individual airmanship improvement. These incentives could take on a variety of forms, from certification awarded for continuing education airmanship courses to actually linking promotion and advancement to demonstrated proficiency across the spectrum of airmanship. Airmanship awards could be designed that reward steady performance as opposed to miracle recoveries of stricken aircraft. In the military, airmanship badges such as command and senior pilot wings could be made to represent something more than longevity and flying time. They could be tied to completion of specific airmanship training across all areas of the airmanship model. Instructor upgrade in all areas of aviation should be based upon demonstrated proficiency across the airmanship spectrum and not be viewed as merely another rite of passage

that everyone qualifies for eventually. In short, the organization should be a cheerleader for airmanship, and provide encouragement and concrete reinforcement for those who choose to improve themselves.

Secondly, the organization should be a resource provider. Airmanship education and training materials should be easily accessible and readily available to anyone who has a desire to improve. These materials can run the gamut from simple reading materials such as pamphlets to structured multimedia courses. It is important that materials on all areas of airmanship are offered, because individuals will vary in their self-assessed needs. The temptation will be to target recent problem areas or mishaps, but this is a mistake. A troubleshooting approach is reactive in nature, and defeats the entire purpose of self-assessment and individual improvement. If the organization dictates what training materials should be on the shelf, they nullify the principle tenet of personal accountability for improvement based on individual needs.

Cost factors will certainly come up in any discussion about providing a new service or training, but this must be viewed in terms of future savings. What would you be willing to pay to make your organization ten percent safer? How about 20 percent, or even 50 percent safer -- how much is that worth? What about efficiency, effectiveness, job satisfaction and retention? Improving airmanship makes sense to the bottom line.

Finally, the organization needs to remove obstacles to airmanship. These obstacles come in a variety of forms, but two

of the most critical are undisciplined aviators and unnecessary taskings. A single undisciplined aviator who is allowed to continue to operate within an organization does immeasurable damage. Others see unchecked examples of poor airmanship as evidence of the organizational malaise and react accordingly. The organization should also seek to eliminate unnecessary taskings. Perhaps the single largest inhibitor to individual airmanship improvement will be time. By freeing up time, and communicating the organization's reason for doing so (so that aviators can pursue personal improvement), you can send a clear message of sincerity and organizational commitment to the cause.

In a sense, this approach makes the organization into a "servant leader" by empowering individuals to improve themselves through motivation, resources, and by removing obstacles. Some individuals will use the opportunity wisely and productively, and others undoubtedly will not. But by taking a proactive, rather than the traditional reactive troubleshooting approach, you will maximize all individuals' ability to improve their airmanship in a meaningful and personal way, within the organizational setting.

The organization must also enforce standards of airmanship. The words of Richard Thornburgh, the former governor of Pennsylvania, echo like prophecy to those in aviation organizations.

Subordinates cannot be allowed to speculate as to the values of the organization. Top leadership must give forth clear and explicit signals, lest any

confusion or uncertainty exist over what is and is not permissible conduct. To do otherwise allows informal, and potentially subversive “codes of conduct” to be transmitted with a wink and a nod, and encourages an inferior ethical system based on “going along to get along” or the notion that “everybody’s doing it.

The following principles and standards of airmanship are suggested to help organizations and individuals accomplish with this critical task.

Ten principles and standards of airmanship

Airmen need more than regulatory guidance, procedures, and word of mouth techniques to define -- and become -- experts. We need the same type of guiding principles that other fields enjoy, to measure our progress on the road to airmanship excellence. The following principles are proposed as signposts and standards of airmanship development. Each principle of airmanship is followed by a standard by which to judge development. These standards are not quantifiable in the traditional sense, (i.e., +/- 10 knots), but rather are qualitative measuring sticks for use in determining personal levels of airmanship. It is hoped that flyers who now understand the nature of good airmanship, will use these principles as tools to take the next step -- personal action.

Principle one: Airmanship must be viewed as a whole

All aspects of airmanship play upon each other. Failure to understand the interrelated nature of each part weakens the

entire structure. Historically, aviators have tended to identify with single-trait flyers who perform great feats -- the miracle recovery, the lowest pass, the tightest traffic pattern, the smoothest landings. Some see the systems expert, or tactics aficionado as their role model. Both of these approaches are flawed, unless they are accompanied by a holistic view of what complete airmanship means: discipline, skill, proficiency, knowledge of self, aircraft, team, environment, and risk. Airmanship means situational awareness and good judgment based upon these attributes. Missing pieces of the airmanship structure signify either a lack of understanding or an apathetic attitude towards airmanship. It always signifies the potential for disaster.

The standard: Multi-disciplinary competence

Airmanship encompasses physical, mental, and emotional skills, or as the educational psychologists like to say, the psychomotor, cognitive, and affective domains. Airmanship means riding all three of these horses simultaneously and consistently well. Obviously this is not an easy task, and some will balk at the attempt to achieve such competence. But a golden hands pilot who can't control his emotions in flight is not exhibiting good airmanship. Nor is the calm and cool systems expert who can't land in a crosswind. True airmanship requires physical, mental, and emotional competence. Specific benchmarks for these areas of airmanship are left for individuals or organizations to develop according to their aircraft and type of flying.

Principle two: Airmanship demands consistency

Expertise demands consistency. The demands of flying operations are constantly changing, like the lights on a stereo equalizer that move up and down depending on the nature of the music. One part of a flight may require concentrated risk analysis, as you are faced with a hazardous weather front, while the next mission segment may require close teamwork or a decision based upon personal capabilities and limitations. Because we seldom know where or when the next airborne challenge will arise, we must be consistently prepared in all areas. Our actions should be congruent with our personal assessment of our aircraft, team, and selves. This is not to say that we can't have a bad day. Even the best professionals on the Pro Bass Tour don't catch fish every day on the lake. But an expert rides out the rough days with an expectation of success the next time out. This confidence is built upon real skill and knowledge, and leads to consistency of action and well deserved success.

The standard: Predictability

"Surprise" is a bad word in aviation. Unfortunately, it can't always be avoided when it comes from an outside source, but we should never surprise ourselves. Consistency means avoiding surprises by approaching each situation with a confidence born of preparation. Given a common set of circumstances, your approach to the situation should be nearly the same each time. You should not be surprised when you succeed at something you are prepared for. Likewise, when you operate near the margins of your performance capabilities, you

should not be surprised with less than perfect results. If you surprise yourself on a regular basis, you are likely lacking consistency or unable to make accurate self-assessments.

Principle three: Airmanship requires balance

No single focus flyer can approach airmanship excellence. A natural consequence of taking a holistic viewpoint towards airmanship is to ensure your airmanship structure is in balance. This means making a conscious effort to advance airmanship along two fronts -- maintenance and development. We all have strengths and weaknesses, and our natural tendency is to gravitate our attention to areas of strength. We like to be good at things, so we do the things we are good at. However, this is only appropriate after we have achieved competence in all areas of airmanship, which means addressing our weak areas first, no matter how uncomfortable it makes us. While we are shaping our weaknesses into strengths, we must not completely neglect our strengths. This maintenance function is often a tricky proposition, because only you know when your proficiency is beginning to deteriorate. Try to give your strong areas enough attention so that they are maintained as strengths.

The standard: No weak areas

The ability to shift our education and training focus to areas of need, while simultaneously maintaining areas of strength and specialization is one of the clear indicators of a mature aviator. The standard is competence across the board.

Principle four: Specialization occurs only after balance is achieved

All of us are eager to be the best at something -- a

recognized expert. Some of us are drawn to tactics, others to instrument procedures, aerodynamics, flight characteristics, or systems knowledge. But whatever our area of interest, specialization first requires balanced competence and readiness. A firm grasp of all areas of airmanship imparts credibility and relevance to the area of specialization. Remember, nothing in airmanship exists in isolation, so a solid grounding in all areas is required to fully appreciate and develop any selected area of specialization.

The standard: Broad-based competence

Much like the principle of balance, specialization demands readiness, and readiness means that our airmanship is fully up to speed. Seek first to be a competent airman -- then to be a specialist.

Principle five: Airmanship is uncompromising flight discipline

This principle needs little explanation. There is no room in good airmanship for intentional deviations from accepted regulations, procedures, or common sense. Violations of flight discipline creates a slippery downhill path towards habitual non-compliance. Once you take that first step in this direction with a willing and intentional deviation, you are far more likely to do it again. Good airmanship is not compatible with flight discipline violations of any kind or of any magnitude.

The standard: Zero violations -- zero tolerance.

It is not enough to practice good flight discipline, you must also make it clear that you do not tolerate poor flight discipline in others with whom you fly. This may be initially difficult, as

many feel uncomfortable confronting others, and value loyalty to friends above safety. Real loyalty speaks out against unsafe practices, and makes it clear that poor flight discipline by anyone is unacceptable. Aviators share a moral obligation to each other to maintain safe operating conditions. Keep in mind, we all share the same sky.

Principle six: There is no substitute for flying skill

Good airmen fly well. They also understand that flying skills are perishable, and that constant vigilance must be maintained if they are to be preserved. Unless we are in a formal training setting, this vigilance will take the form of mature self-assessment. An aviator must have or develop the kind of maturity that allows weaknesses to be recognized -- and then the discipline to work on these areas, even though we would much rather be practicing on areas of personal proficiency which we feel much better about. Airmanship goes beyond merely stick and rudder skills. It means honing and refining procedures and techniques to a personal level of excellence where a missed checklist step or botched radio communication just doesn't happen anymore. Error free flying -- as well as "good hands" -- is the mark of an airman.

The standard: Stick and rudder proficiency in all areas of flight and procedural perfection

Note the three parts of this standard. First, accurate and mature self-assessment must become part of your post flight routine. Only you know whether that crosswind caught you by surprise, or if your stomach tightened up in knots when the controller changed the runway on you. No instructor can ever be

as effective at pinpointing your weak areas as you are. Use this gift. Secondly, seek to achieve procedural perfection. This is one area where there are really no shades of gray. There are a finite number of checklist items and associated procedures. Learn them all and practice until you don't make omissions. This requires personal discipline and habituation, but it is well worth the effort. Finally, continuously hone your flying skills. Be aware and focus on fixing your weak areas, but never let your strengths atrophy – they represent what you at your best.

Principle seven: Airmanship requires multiple knowledge bases

Throughout history, superior airmen have drawn from deep pools of knowledge in several areas. We cannot hope to reach our potential without following the path they have established. Begin with the six pillars of knowledge identified by researchers as essential to good airmanship, and then add what you feel are relevant to your personal flying type. Expert airmen possess knowledge of themselves, their aircraft, their team, the physical, regulatory, and organizational environments, mission tactics and risk. Work these areas systematically until you reach a comfortable level in each, and then establish a procedure for periodic review.

The standard: Instant recall of critical items, and sufficient knowledge of self, aircraft, team, environment, mission and risk to maximize performance

There is an old joke that asks “what are the three things considered most useless to a pilot?” The standard answer is “runway left behind, altitude left above, and . . . (fill in the blank).” My blank filler would be “inert knowledge,” that useless book learning that can be recalled at groundspeed zero for test

purposes but is not known well enough to be recalled when your life is on the line. Throughout this book we have seen examples of aviators who were unable to recall important information when it was needed, who often paid the ultimate price for their lack of preparation. The only solution to inert knowledge is deeper study and drill, so that critical knowledge recall becomes a sub-conscious event and leaps to the surface effortlessly when needed. The second half of this standard is knowing where to find other information if required -- not only for use in flight, but to develop your knowledge across the breadth of airmanship. Topics like Cockpit/Crew Resource Management (CRM), situational awareness, weather, and others, should all be readily available to deepen your understanding in these important airmanship topic areas.

Principle eight: Airmanship is maximizing situational awareness (SA)

No one maintains perfect SA at all times, yet a consistently high state of SA is another mark of a superior airman. Situational awareness is directly correlated to an aviator's attention, or lack thereof. Each of us only have a certain amount of attention to spread around all of our flight tasks, so development and expertise in lower parts of the airmanship model, frees up more attention for situational awareness. For example, a disciplined, proficient, and knowledgeable pilot does not have to give much conscious thought to the procedures and skills required to fly an instrument approach, his preparation makes it almost second nature. If a sudden distraction occurs, like a runway change or some unexpected weather, this pilot is usually quite capable of recognizing and reacting to the change

in a safe manner. In contrast, a pilot who is less prepared, and is struggling just to fly the approach, is far less likely to handle the distraction and simultaneously complete a safe approach. The point is that each of us has an attention saturation point, beyond which we lose situational awareness. Airmanship is preparing ourselves through discipline, skill, and knowledge, to have the maximum amount of “left over” attention to handle the unexpected distraction. But since any of us can become overloaded, we must also be able to recognize the symptoms of lost SA, and have the critical actions for recovery “hardwired” to prevent disaster.

Three standards of situational awareness

1. Understand components of preparation for maintaining SA
2. Recognize lost SA in yourself and others when it occurs
3. Know immediate action steps for recovery from lost SA

Maintaining SA requires a solid under girding of airmanship, with all that that necessitates. Recognition techniques are covered in detail in chapter nine of *Redefining Airmanship* and it is important to develop the ability to recognize lost SA in others, as well as yourself. Perhaps the most important aspect of understanding situational awareness -- and the one that should be committed to memory first -- are the steps to take to safely return home in the event of an episode of lost SA. 1. Get away from danger. 2. Stabilize conditions. 3. Give your mind a chance to get caught up. 4. Once on the ground, analyze the situation that led to the loss of SA, so that it

doesn't happen again.

Principle nine: Solid airmanship leads to good judgment.

Judgment has taken on an almost mystical quality among airmen, yet it is really quite simple. Once all of the prerequisites are in place, good judgment becomes a natural and automatic consequence of airmanship preparation. You show me an example of poor judgment, and I'll show you poor preparation. In nearly every case of poor judgment, you will find a problem with discipline, skill, or knowledge which existed prior to the episode of poor judgment. There is an old adage in aviation that "you can't teach judgment." Like many dangerous misconceptions, this is partially true. Judgment cannot be taught as an independent objective, but it can certainly be accomplished by learning the fundamentals of airmanship. This is achievable and relatively uncomplicated. Yet the myths that judgment is either "something you have or you don't," or that it "can only be obtained through experience," are simply wrong. Those who have not taken the time to understand airmanship have accepted these myths for decades. In fact, teaching judgment to ourselves is really quite uncomplicated, although certainly not effortless. All we must do is build a solid and complete airmanship structure, and good judgment will naturally flow from it. Nothing of value come easy. You can't win judgment in the lottery or wake up with it one morning. You can't learn it from Chuck Yeager, your instructor, or from me. It is a personal journey through airmanship, based upon individual strengths, weaknesses, and desires. The trip itself is enlightening and enjoyable, and the destination is well worth the

price of the ticket.

The standard: Consistently sound decision making

Good judgment is the ultimate measuring stick of a superior airman. Nothing makes an aviator feel better than to have someone tell them that they exercised good judgment in a tough situation. But even poor airmen can make good decisions, and the true standard of judgment is consistency. Whomever coined the adage that “superior airmen use their superior judgment to stay out of situations where they must use their superior skills” was right on target. The inverse is also true. Superior skills, discipline, and knowledge create conditions (i.e. stability, SA, etc.) where good judgment is easy to apply. These attributes of airmanship also create consistency in decision making -- the mark of a superior airman.

Principle ten: Good airmanship is contagious

Airmanship excellence is self-sustaining and contagious. The pursuit of excellence is exciting, fun, and infectious. When others sense your enthusiasm with the journey, they too will begin to take a closer look at their own levels and approaches to airmanship. Share your efforts with them. Peer review is one of the most effective and efficient forms of improvement known. It’s utility is no secret in the business world, or in the Israeli Air Force, where it is formalized mandated for their combat pilots. Share your discoveries, resources, and insights. Find a partner or build a team.

The standard: Sharing what you’ve learned

Although the pursuit of airmanship excellence is by

definition an individual project, there are great personal and organizational advantages to sharing your efforts with other aviators. First, it is likely that you share local airspace with your colleagues. Their predictability and airmanship directly benefits you, as well as all others who share the same sky. Secondly, it is always easier to stick with an improvement plan if you know that you are not alone in the effort. Finally, we have a moral obligation to share what works in a high-risk endeavor like flying. The little bit of information that you pass along, may be what saves his life -- or yours someday.

The ten principles of airmanship are not designed to be all inclusive, or as a magic panacea for poor airmanship. They are offered in the hope that they will reinforce the material contained in the preceding chapters, and remind us of the essentials as we pursue personal excellence. The traps of early specialization and gaps in knowledge are all too frequent in many of today's flyers, who then fail to understand why they occasionally get in over their heads and make poor decisions. By keeping the principles in mind, it forces us back to the work to be done -- building and refining the entire airmanship package.

A final perspective

Aviators come in all sizes, shapes, religions, sexes, races, creeds, and degrees of airmanship proficiency. We fly different types of aircraft in different locations, from a grass strip in Mississippi to an aircraft carrier in the Indian Ocean. We fly for different reasons. Some fly for money, some for prestige, and some just for fun. But regardless what background we bring to aviation, what aircraft type we fly, or what our motivations are

for doing it -- we all have a moral responsibility to each other to practice sound fundamental airmanship. This obligation also extends to the public at large, over whom we fly and who often become the innocent victims of our ineptitude. The airmanship model is offered as a means for individual aviators to take a stand against poor airmanship at the only point at which we have total control -- ourselves.

The cure for the rash of human error accidents and incidents lies at our fingertips. Through self-improvement we, as a brotherhood of aviators, can effect a cultural change in aviation. We can make undisciplined, unskilled, or unknowledgeable aviators a thing of the past. Before we can expect changes in others, we must make certain that our own camp is in order. The standards suggested by the airmanship model are by no means the final word on this matter, but it does represent characteristics and traits of successful airmen since the dawn of flight.

The essence of what it means to be an airman cannot fall by the wayside. We need a shared sense of "who we are and what we stand for." The common structure, principles, and standards set forth in this essay may be the first step in this direction. The next step is to institutionalize it and begin to peel the next layer off the onion to assess the current training programs for coverage of these areas, and commit to filling the gaps.

Recommendations

Institutionalization of an international model of excellence

is a mandatory first step towards establishing formal benchmarks of professionalism, or training towards those benchmarks. Focusing on the positive attributes of experts is a much more productive endeavor than a laundry list of “thou shalt nots.” If and when the professional community can agree on a common view of professionalism, a serious assessment of training, education, and regulatory guidance should follow. This “gap analysis” should provide a strategic vision for the future across the spectrum of training, education, certification, and regulation.

About the Author

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Tony Kern is the CEO of Convergent Knowledge Solutions, LLC – a veteran owned private think tank. He recently served as the National Aviation Director for the U.S. Forest Service where he directed the largest non-military government aviation program in the world in support of wildland firefighting operations. He was formerly the Director of Military History at the USAF Academy and is an internationally recognized lecturer on human performance, training and safety. Tony is the author of five books on pilot performance, including *Redefining Airmanship*, *Flight Discipline*, and *Darker Shades of Blue: The Rogue Pilot*. Tony is a retired Command Pilot with the U.S. Air Force, where he was an instructor pilot and flight examiner in the B-1B bomber and served as the Chair of the Air Force Human Factors Steering Group, among other assignments. He is the recipient of numerous awards including the 2002 *Aviation Week and Space Technology* “Laurel Award” for safety and the 2003 *Flight Safety Foundation* “Distinguished Service Award” for Aviation Program Leadership. He is a frequent guest on talk radio and TV, including segments on the Discovery Channel, NBC Nightly News and *48 Hours with Dan Rather*. Lt Col Kern holds Masters Degrees in Public Administration and Military History as well as the Doctorate in Higher Education, specializing in human factors training design. He enjoys hunting, fishing, boating and flying. He lives with his wife and two teenage sons in Stafford, Virginia.

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