Airmanship Principles: Introduction and Preflight

Featuring:
Bob Martens and Wally Moran
Bob: Welcome to today’s workshop. Let’s start at the beginning. Just what is airmanship, and why is it an important concept to all pilots?

Rather than try to put words to a definition, airmanship is more about setting a standard of excellence for yourself as a pilot, that you constantly pursue. Unfortunately, as pilots we are trained and evaluated against minimum standards. And while these minimum standards will allow us to fly safely, I’d like to think that most of us aviators aspire to a higher level of achievement.

The rewards are well worth pursuing. Not only will we create a much higher safety margin in our flying, but also the sense of pride in our accomplishment is well worth the additional effort. Getting certified means you’re a pilot. But practicing airmanship takes you to the next level.

Why would this concept be important to an aviator of 40-plus years and thousands of hours of flying? Wally Moran would be the perfect pilot for this question. As a retired airline captain, certified in the best equipment aviation has to offer, and a designated FAA pilot examiner, Wally is an enthusiastic supporter of the airmanship principles. He knows that the records of aviation accidents include scores of experienced pilots who settled into complacency or mediocrity.

This workshop will be an in-depth interview with Wally Moran, taking us from preflight to postflight with very specific tips and issues for all pilots to ponder. See how you measure up to the challenge of achieving airmanship.

Wally, with your vast experience and background, many might think that this subject is too fundamental for an aviator of your caliber. Would you mind explaining why you think this subject is so important to all pilots?

Wally: Bob, the answer to that question is easy. All you have to do is look over to the person sitting next to you in the airplane. Chances are it’s either a loved one or at least a good friend. They are the reason you need to be a good airman. What each one of us does, reflects upon all of us. Collectively our actions reflect upon our insurance rates, our public perception and ultimately our access to airports and airspace.

Bob: Wally, why don’t we get started at the beginning: preflight and preparation. It’s an area where, you know: “Looks like a good day to fly; let’s go get ‘em.” Why doesn’t that work? What are some of the items where we can elevate our airmanship in the pre-flight preparation stage?

Wally: Well the first item, Bob, for any good airman, is good preparation and planning. And that starts with a preflight of the pilot before we even think about the plane. If the pilot’s not airworthy, there’s little point to worry about all the other factors.
Did you know that according to the AIM, pilot impairment contributes to many more accidents than failure of aircraft systems? We all worry about system problems, but do we pay enough attention to the pilot problems?

Pilots need to complete the “I’m Safe” checklist before each flight. It’s: Illness, Medication, Stress, Alcohol, Fatigue and Emotion.

Any one of these items we know can affect pilot performance. Often we have a small dose of a few of them -- perhaps a little fatigue from a hard day’s work, maybe getting a little cough, under a little stress to get back for an appointment. When we think of each of these items individually, we think, “Well that’s not a big deal.” But when we look at the checklist, we can see that they can all be cumulative. We spend a lot of time preflighting our airplane. We need to spend at least a little time preflighting ourselves before we start the airplane.

Bob: Let’s look at the weather portion of this. It’s so easy to look out the window and say, “Looks good; I’m going.” Let’s talk about, you know, how and why and where we can get the weather resources we need to start our trip in an appropriate manner.

Wally: Well, there’s a multitude of resources out there now. We all know that. But a good airman usually starts with the big picture and that can be The Weather Channel. That can be several online sources. This gives you a chance to begin to think about what challenges you’re going to have on this particular mission, whether it’s going to be crosswinds, whether it’s going to be low weather, whether it’s going to be instrument proficiency, night proficiency, whatever the issues you may have. When you finally do call the Flight Service Station for the briefing, if you’ve looked at the big picture you already know what kind of detail information you want to get from that dialogue with the briefer, and that’s going to help you make better decisions and a better plan for your journey.

Bob: How about the mental preparation? How do we make that transition from whatever we were doing prior to flying, so that we now focus our full attention on the flight ahead?

Wally: You have to turn the switch off, Bob. You cannot continue to do business as you’re rushing out to the airplane. I like to start with the drive to the airport. That’s a good time to turn off the cell phone, turn off the radio and just think a little bit about the challenges that are coming along on your flight. Get your brain working for the flight before you get to the airport. Chances are you won’t be distracted and you won’t miss important things during your pre-flight preparation.

Bob: Wally, another point that comes to mind here. I know you’ve had the benefit as an airline pilot, and I, as a military pilot, of walking into a fully-equipped preparation room. We have a big table. We can lay out our maps. All of our charts are there. Everything we need for our flight is ready for us. How many General Aviation pilots start
out in that same mode, and how do we bridge that gap so that we can perform in General Aviation the way the big boys and girls do it?

Wally: Well, we have a briefer in General Aviation, just like an airline pilot or a military pilot has a dispatcher, if we choose to use that tool. That person is there. They are an expert in the pre-flight planning phases. All we have to do is pick up the telephone and call them. And that gives us the same resources that the military and the airline pilot have. Almost every FBO that you visit has a very nice computer with a whole host of weather maps and weather data on it. Of course, you do have to stop and take some time to look at it and use it, but it’s available.

Bob: Terrific. Well once again, a lot of items you need to do before you ever get near the airplane.

Wally: Absolutely.

Bob: Well now, as we approach the airplane -- I’ve asked the question at seminars: “How long would it take to accomplish a preflight?” And the answer is somewhere between 20 to 30 minutes. And if you ask most pilots how long they spend on their preflight, the answer would be: maybe five minutes.

So there’s a true gap here between what we should be doing on our preflights, and what we are doing in our preflights. How would a true airman approach the preflight, and what tips would you give us for making sure that our preflight is as professional as it can be?

Wally: Well, two things can happen on a preflight. Either you can be distracted and miss items. Or you can miss items because you’re under pressure to get going because it’s getting dark or the weather’s going bad or your passengers are giving you a hard time about getting going.

So the first thing you need to remember is always use your checklist. That’ll help eliminate the distracted items. You can’t make up time on a preflight. You need to take the time it takes. Let me give you an example, Bob, of how a checklist saved me from a very serious mistake one day.

Many years ago, I owned a Cessna 195, and at that time I was based at a little airport in the mountains of California… it was a little short airport with nothing but rocks and trees on both ends of the runways. Certainly there was no chance for a safe landing if you had an engine problem right after takeoff. I arrived early one day, just to exercise the airplane, and go for a little scenic flight, practice my landings. That aircraft had the three standard fuel drains, two fuel tanks and a fuel sump. During my preflight, I drained the right wing sump. I drained the fuel sump at the engine. But I forgot to drain the left wing tank. Now I’d owned this airplane for several years and I had never gotten one drop of water out of that airplane. I drained it religiously, never had a problem. I got in the airplane, fastened my seatbelt, then I pulled out my checklist, my pre-flight
checklist, that is. A little bit late, but at least I pulled it out. I went through it and I
realized I’d forgotten to drain the left tank. By now I’m in the airplane, the doors closed,
the seatbelt’s on. I’ve never gotten any water before. Why should I go through the
trouble of doing this? But fortunately I decided, hey I’m in no hurry. Why not just follow
good discipline and good practice and do it? I got out of the airplane. I got my fuel
drainer. I drained a cupful of fuel. I looked at it and discovered it was all water. I
drained another cupful, all water. By now I was getting goose bumps. I drained 17
cups of water out of that tank.

Bob: Wow.

Wally: That engine probably would have run just about long enough to get me out
over those trees and rocks. And then it would have begun to swallow that water and I
would have been a statistic in the NTSB files. I think there’re two factors that saved me
from that accident, Bob. And of course, discipline is the bottom line. But factor number
one: I did use a checklist. Even though I didn't use it perhaps quite as I should have, I
did use the checklist. That reminded me that I’d made the mistake.

Secondly, I wasn’t under any time pressure, fortunately, that day. So that made it easy
for me to do the right thing. I think not using the checklist or being in a big hurry trying
to make up time, I might have done that differently. And it might not have turned out so
nice.

Bob: One good story leads to another, Wally. And I’m reminded: I had a
crewmember flying C130s. And if you tried to rush this flight engineer through his
preflight, he put the brakes on. He absolutely put the brakes on. If you wanted to get
off and you tried to push him, his discipline was so rock solid he was not going to be
pushed into doing a quick preflight. So if you wanted to see him slow down, try to make
him hurry up. And then I always remember that as a lesson to me that, you know, the
hurrier we go, the behinder we get. So that’s a real good point about not trying to make
up time on the preflight.

Wally: That’s a fact. I recently observed a fellow preflight his entire airplane with a
Cell phone up to his ear, having a cell phone conversation during his preflight. I never
got to talk to that fellow, but I already have an impression of his airmanship and I don’t
think it’s very good.

Bob: Absolutely. Wally, just quickly if you would: the philosophy on checklists -- your
technique for using the checklist, especially in the pre-flight phase.

Wally: When we’re new pilots, we need the checklist to use it as a to-do list. But as
we grow and mature as pilots, we need to change that. We need to develop flow
patterns for preflight, for before engine start, for all the phases of flight so that we can
complete the flow pattern, then take the checklist out and use it as a true double check.
If we’re using it as a to-do list, it’s really easy to miss a step. And it’s really not a
checklist; it’s an instruction book at that time. We should be using it as a checklist just as the military and just as the airlines do.

**Bob:** Wally, I’m reminded, too, of the challenge of dressing appropriately for a preflight. Many people use their airplanes for business purposes, and they’re dressed for business meetings. And are you going to crawl under your wing, and if you’re doing it in the wintertime are you going to have the gloves and the hat so you’re not wind-chilled.

**Wally:** Absolutely; all of those factors are detractors to cause us not to do a good thorough preflight. You need to think about those, as you’ve said, Bob, and you need to prepare with all of the equipment one needs to do a good preflight.

**Bob:** And Wally, before we move on to getting the engine started, any more on the pre-flight area?

**Wally:** Bob, a good practice that I have since started after the incident with my Cessna, is that at the end of the preflight I step back, take a long look at the airplane and review the checklist at that point in time, before I get in the airplane. It gives me a good opportunity to get the big picture on the airplane, to make sure that all the tiedowns are untied, make sure there are no chocks under the wheels. You know they don’t give out good airmanship medals for pilots who taxi out with a tiedown still tied or the oil door open. The step back and take a look at the big picture is really the last step that one should do, and it really pays off.

**Bob:** Wally, you remind me of one additional big picture issue, and that’s the subject of weight and balance. You know, if you ask 10 out of 10 pilots is this an important subject, they’ll all say yes. But how often do we conduct a weight and balance on our flights? Seldom, if ever.

So we need to think about that. Are we approaching the gross weight limitation on this airplane? Are we approaching the balance limits on the airplane? And if we’re even close to either one of them, we need to get out the pencil and paper.

**Wally:** That’s correct. And I know your career as a military pilot and mine as an airline pilot -- every flight, we did a detailed weight and balance. And I’m quite proud to say 30 some years in the airline, no one ever asked me to try to take an airplane off overweight or out of balance.

**Bob:** Nor would you even think about doing it. I mean, neither one of us want to be a test pilot, and the challenges there are in another realm.

**Wally:** That’s for sure.

**Bob:** Wally, a crucial item on pre-flight preparation is our passenger briefing -- a professional briefing to prepare your people to fly safely with you. Your passengers can
be an asset or a liability. Your briefing will determine which role they play. One of the most important items on the pre-flight briefing is letting them know about the sterile cockpit concept. We don’t need for the pilot to be distracted during crucial phases of flight.

Wally: I agree, Bob -- 100%. The FARs require us to brief all of our passengers on a couple of items. However, you pointed out a lot of others that are very important comfort items: air vents, air sickness bags, and the sterile cockpit, which is so important. Again, it’s that idle chatter in the cockpit that could cause one to miss a hold-short clearance which could cause one to have a runway incursion.

Bob: And how many of us have struggled to open an airplane door from inside?

Wally: I always brief the passengers on at least the mandatory items. And if I’m flying even with Bob Martens, I would make sure that he knows how to operate the door, as all of these airplanes have unusual and sometimes unique tricks to getting doors open and closed. And then I adjust my briefing for the passenger and the mission. But I at least make sure they understand the sterile cockpit concept, and take care of all the comfort items they might need such as air vents or air sick bags.

Bob: And cockpit resource management mandates involving everyone in our flight. Feedback from a passenger of another airplane that’s converging on you from a spot that you can’t see may be an important item. And if you don’t ask them for their feedback, and let them know what kind of feedback is appropriate, you are just not using all the tools that are available to you.