THE TOOLS

It's Time To Change Our Lying Ways

by John and Martha King

Ever since the days of the barnstormers we've been lying to our passengers, and worse yet, to ourselves. The barnstormers would tell passengers, "It's perfectly safe." And we've been telling passengers that ever since. We now even go so far as to tell the big lie, "The most dangerous part of the trip is the drive to the airport." The sad part about this is that most pilots actually believe this.

This statement is true as far as the airlines go. On a per mile basis the airlines work out to be about seven times safer than driving. But general aviation airplanes aren't in the same league. On a per miles basis you are 49 times more likely to be involved in a fatality in a general aviation airplane than in an airliner.

The reason the big lie is sad is that when pilots fail to admit the risks, the odds are they won't do a good job of managing those risks. Plus, lying to passengers only serves to undermine our credibility. To them the risk is intuitive. We load ourselves into this noisy metal container that shakes and rattles. We hurl ourselves down the runway at a lethal speed just to get airborne, and then fling the whole assemblage into the air. After this you ask the passengers to trust the guy who told them, "This is perfectly safe." It would be much more comforting if we told them, "Just as with any other activity, there are risks associated with flying. What we are taught when we learn to fly is how to manage those risks."

One of the reasons our general aviation fatality rate is so high is that the flight training we all received is flawed. The vast majority of fatal accidents are caused by a failure in risk management, yet flight training is focused almost exclusively on skill.

Actually what little risk management that is taught is done by passing along clever sayings, making up rules, and telling stories. We say such clever things as, "The two most useless things are the runway behind you and the altitude above you," and "The only time you can have too much fuel is when the airplane is on fire." These sayings have their place and really can be helpful. It's just that they only deal with specific situations.

The way pilots really learn risk management is by "experience." The way it works is pilots either intentionally or unintentionally expose themselves to a risk. If they don't scare themselves, they place the risk in the acceptable category. In reality, they may have just been lucky. The more times a pilot gets away with taking a risk, the more the pilot feels the risk is acceptable.

If on the other hand, the pilot does scare himself or herself, they add that risk to the long list of things they won't do any more. The more "experienced" a pilot becomes; the longer the list.

The problem with learning by experience is that experience is a hard teacher. She gives the test first, and the lesson comes afterward. Many pilots and their passengers don't survive the test in order to get the lesson.

Clearly this is a flawed procedure. It results in too many dead pilots and their passengers. Plus, even the lucky pilots who survive to get a long list of things they won't do any more, still have no procedure to help with risks that they have not yet experienced or haven't anticipated.

The answer is that instructors must teach, and pilots must learn a practical, proactive procedure to anticipate and manage risks. Practical risk management means that we have to be able to actually use our aircraft. If we wanted to totally eliminate all risks from flying, we could just not fly.

The reason we must be proactive about risk management is that that the risks in flying can often be sneaky and insidious. They catch pilots by surprise. After all, pilots who come to grief by flying into worsening weather didn't deliberately take off and fly in weather they knew would kill them. What happened is that the weather changed while they were in flight and they failed to manage this situation properly.

We already use this kind of proactive procedure when it comes to managing the risks in the mechanical condition of our aircraft. We take what we think is a perfectly working aircraft into the shop for an inspection. We probably flew it to the airport. Then the shop uses a checklist to proactively conduct surveillance on the aircraft looking for things that could present a problem if not dealt with. Finally, the shop takes corrective action to manage the situation.

As pilots we must use a checklist

to conduct the same kind of surveillance for the risks associated with a flight.

We recommend the **PAVE** checklist.

PAVE stands for four categories or risk factors:

Pilot
Aircraft
En**V**ironment
External Pressures

• "Pilot" suggests that you think about the risk factors associated with you the pilot. Think about such things as your currency and familiarity with the aircraft. Also, consider your physical condition. (The IMSAFE checklist can be a help here.)

• "Aircraft" reminds you to consider whether the equipment and performance of the aircraft available to you is suitable for this mission.

• "EnVironment" prompts you to examine the weather, the terrain, and daylight vs. darkness for risks.

• "External Pressures" refers to things that are not actually part of the flight, but linger in the background to pressure you to complete the flight on time or to continue when you shouldn't. They are things like people waiting for you at the airport, a scheduled business meeting with no time pad, or even your own hard-wired tendency to want to complete things that you start. This goal-oriented behavior is usually a good thing in the rest of your life, but can be a risk factor in an airplane.

These "external pressures" are the one risk factor that tends to make you ignore all the others. You manage them by remembering they lurk in the background and taking proactive steps to minimize them before you depart.

The way we recommend you use the checklist is during the preflight to think about each of these risk factor categories and identify the risk factors associated with the upcoming flight in each category. Then take steps to manage those risks. The identification of an unacceptable risk factor or marginal risk factors in more than one category is grounds for canceling the flight.

In the air we recommend you conduct an attention scan similar to the instrument scan an instrument pilot uses. Most pilots use a hub-and-spoke scan with the attitude indicator serving as the hub and then spoking out to and back from the other instruments such as the altimeter, heading indicator, and airspeed indicator.

To conduct the attention scan the pilot uses physical control as the hub. Then the pilot's attention spokes out to the items of the CARE checklist.

The categories of the **CARE** checklist are:

Consequences
Alternatives
Reality
External Pressures.

• "Consequences" reminds you to think about the changes that are always taking place during a flight and considering the consequences of those changes. For instance, a groundspeed different than you anticipated most likely means a change in the winds aloft. If the groundspeed is decreased, it means you will arrive later than planned, more fatigued, under stress from being late, and lower on fuel. Since the winds aloft drive the weather patterns, the odds are that the weather at your destination will be different than you planned on as well.

• "Alternatives" is the reminder to always have alternatives. When you take off you have a very large circle of alternatives that will let you fly the distance to your destination plus reserves in any direction. As your flight continues, your circle of alternatives keeps getting smaller and smaller. When you arrive at your destination, your circle of alternatives has shrunk to the distance your reserve fuel will allow. Plus, you the pilot are now fatigued and less capable of dealing with the demands of decisionmaking. You can always re-expand that circle of alternatives at any time simply by landing to get some rest and re-fuel.

• "Reality" reminds you to deal with things as they really are, not just as you planned them to be. A pilot who continues into worsening weather conditions or with a known defect is often in denial. The answer is to deal with reality and not be in denial.

• Finally, "External pressures" reminds you to be aware of and manage those pressures in the air that tend to make you continue when you really shouldn't.

The lesson is all of this is that we as pilots must admit the risks, conduct surveillance for them and manage them. Only when we become proactive about this will have any hope of being able to say, "The most dangerous part of the trip was the drive to the airport" and have it be true.

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IM SAFE

Illness
Medical Condition/Medication
Stress
Alcohol
Fatigue
Emotion

For a more detailed explanation of the IM SAFE checklist can be found in the January/February 2004 *FAA Aviation News*.