NATIONAL HEADQUARTERS
CIVIL AIR PATROL
UNITED STATES AIR FORCE AUXILIARY

24 Jun 02

MEMORANDUM FOR ALL UNIT COMMANDERS

FROM: DOR

SUBJECT: Flying Magazine Interview With John and Martha King

1. First, let me thank you for your continued support of the Civil Air Patrol Safety Program. Together, we're making a difference. CAP will always be challenged by risk in every mission and activity that we conduct. Although we can never completely eliminate risk associated with our operations, our training programs will progressively play a major part of CAP's risk management initiatives.

2. The June issue of Flying Magazine featured an interview with John and Martha King, owners of King Schools, based in San Diego, CA. The Kings are both flight instructors who have produced a wide range of flight training products. While their interview is concerned with incorporating risk management skills into flight training, similar mishap prevention benefits would result in any of CAPs training programs. The Kings present a keen insight into effectively training people to manage risk.

3. The Editor of Flying Magazine has graciously agreed to let us reprint the article, in its entirety, to enhance the safety of Civil Air Patrol. I found the article very interesting; I hope you find it equally interesting and instructive.

GARY K. WOODSMALL
Chief of Safety

Attachment:
Article reprint, Flying Magazine, Jun 02

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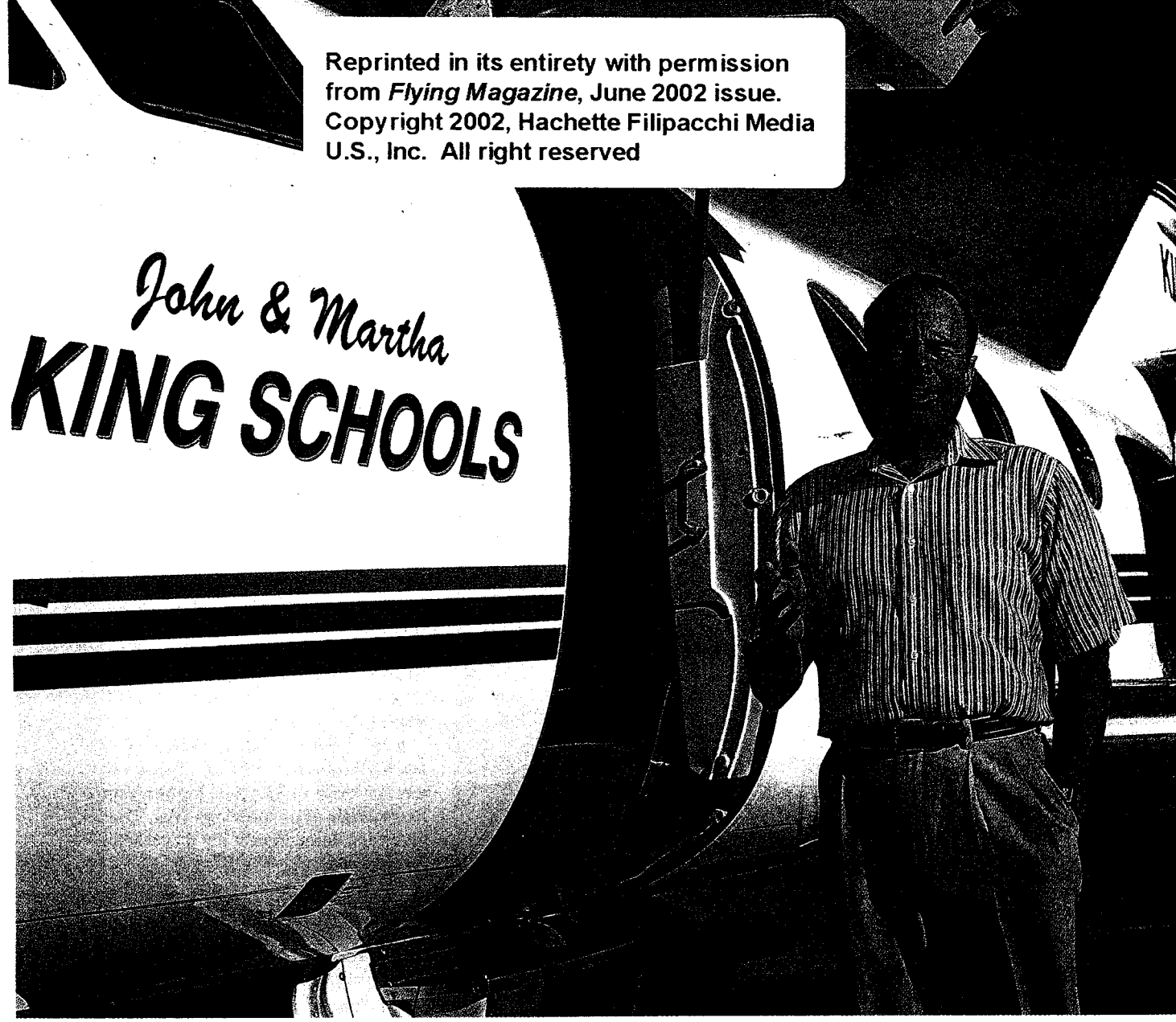

Last year, we interviewed John King on his battle to dispel what he called "the big lie" of aviation: that flying is, or can be, "safe." He argued that flying a general aviation aircraft is, by nature, a risky endeavor, and the only way to manage the risk more effectively is first to acknowledge that it exists. He pointed out that 85 percent of all accidents are due to pilot error, which means that the pilot, on some level, did not manage the circumstances, risk and judgment calls of the flight well enough.

King argued that in order to improve general aviation's accident rate, we needed to start changing the culture of aviation from one that breeds risk-denying or risk-taking attitudes to one that is more supportive of acknowledging, evaluating and managing the risks inherent in flying small aircraft. Identifying a problem is always easier than identifying an effective solution, of course. So recently, *Flying* visited with John and Martha King again to talk about some of the specific ways they think this goal might be achieved.

Q: If we wanted to change the culture of aviation in terms of risk management, where do you think we should start?

John: One of the biggest reasons that pilots don't do a better job of risk management is that there's a void in our flight instruction. We're only teaching half the equation. Our flight training focuses on physical skills. We give lip service to risk management, but it is not the primary focus of our training programs, and it *is* the primary cause of accidents.

If you talk to flight instructors, and people in the flight training community, they would say, "Well, we *do* teach risk management." But my response to that is, "Not well enough, folks." Virtually every accident, even when it involves physical skills, *is* a risk-management accident. Because the pilot failed to manage the risks, so that superior skill was required.

Q: What's wrong with how we teach risk management now?

John: We do a reasonably good job of risk management during flight training, but when students leave the supervision of their instructors, the accident rate goes up by almost 50 percent. So that tells me that we're not passing the tools on to new pilots so that they're able to practice good risk management on their own after leaving the training environment.

John and Martha King point out a dangerous gap in most pilots' instruction.

WHAT PILOTS DON'T KNOW

BY LANE WALLACE

The way most pilots learn risk management now is trial and error. Because that's what experience is—trial and error. We learn about risk management a lot by exposing ourselves, intentionally or unintentionally, to risks. But one of the problems with that is, if the outcome is successful, if we didn't scare ourselves or if we got to our destination, we place that risk in the acceptable category, when it might have been just luck. And even if we *do* encounter a risk that scares us, and we decide, "wow, that's something I don't want to do," it may only imprint a change in behavior for that single scenario, and we don't know if the imprinting for even that scenario will erode over time. So trial and error, and exposing yourself to a risk, is not a good way to teach risk management.

Q: How would you change that?

John: By teaching specific risk management skills and by coming up with scenarios that require the student to use those skills. There's a whole host of things we could use as risk-management devices that we don't. People think of risk management as attitude, but it's not just attitude. We need to, for example, fly students in low visibility, not to encourage them to fly in low visibility, but we need to have students *see* low visibility and learn how to judge when the visibility is low. And how low is too low.

The whole idea of instruction, in general, is so you don't have to learn by trial and error. What we want to do in aviation is artificial seasoning, so students can get the lesson without having to have had the experience. In a sense, what we're trying to do is get the level of our primary instruction up to the level of what airline pilots and corporate pilots are getting, because they probably do the best job in aviation of risk management. The airlines and places like SimuFlite and FlightSafety have a tremendous focus on what could go wrong next. There are skills you can teach to increase a student's situational awareness and to get them proactive about thinking ahead about what they're going to do in any given situation. If virtually every flight lesson talks about risk management, managing the risks of the flight, we will all begin to see our primary job as a pilot as risk management. We think that our primary job as pilots now is mission completion.

Martha: The problem is, flight instructors tend to be focused on the physical skills and the navigation, and they're not asking the "what if" questions. They're focusing, if you will, on tactics and not strategy, the tactics being the immediate physical control of the airplane and do you know where you are right now, and so on, but it stops there. And strategy is the "what ifs." What if your GPS quit, and so on, getting them to stretch beyond and to be mentally flexible about their flight, looking at the alternatives based on those pieces of information.

Sometimes people don't divert because they don't have a comfort level about something so basic as how to get into the landing pattern and how to get the frequency at an airport they've never been to before. They have everything planned out to a tenth of a second, and they get up and something happens, and they don't have the habit and the mental flexibility of changing their plan to deal with the change in reality. But they have to have that skill, because they need to be spring-loaded to divert if there's an issue. Part of what you want to train a pilot into thinking is, if you get to your originally intended destination, that's great, but it's like when you're doing practice instrument approaches. What they say is, "always assume you're going to do a missed approach. And if you end up landing at the end of the approach, that's great."

For example, an instructor can tell a student to plan a trip to airport A, but then, en route, do a scenario that this is what's happened to your fuel, or the wind, or weather or whatever, and consistently have the student end up at a different airport than the student thought they were going to when they took off. Because if you just discuss risk management on the ground, sitting in comfortable chairs, having coffee together, it doesn't get internalized. It's got no emotional impact. If, when they're in the air, they're constantly diverting, constantly having to be anticipatory on risk management, that really in-

ternalizes it with a lot of emotional connection.

John: One of the problems is that everybody teaches for the practical and written tests. And as a general rule of thumb, if it's not on the practical or written test, people tend not to cover it.

Q: Are you saying we should change the training regulations or tests to include more risk management skills or scenarios?

John: No. I think that would be a bureaucratic nightmare. I think if we're really going to change the aviation culture, we're going to do it much more quickly as an industry than the FAA is going to do it.

One of the best examples of what we can do as an industry is the Robinson Helicopter Company. They just simply made a decision that they were going to change things. They went beyond what the FAA required in its training requirements and focused very specifically on the risks involved in flying in a very candid and open way. They have a Robinson Safety Course that flight instructors and students attend, and there are many risk management tools given to you that help you deal with the risks involved in helicopter flying. But it takes a great deal of courage to say that we're going to put more into the curriculum than the FAA requires, because it makes your course a lot longer, which puts you at a disadvantage to everyone else. But what you have to do is say what Frank Robinson says, which is, "I don't care. We're going to do it the right way, because it's going to pay off in the long run."

Martha: There's nothing that says that any particular flight school or instructor can't say, for example, that three hours of dual cross country may be the FAA's minimum, but it's not enough for me to give you the seasoning and experience you need to be safe.

Q: So how are you going to get the aviation industry to start voluntarily changing or increasing its training requirements?

John: The biggest thing is, you get the people who create syllabi and course materials to change their materials to go beyond what the FAA requires. People can still short-circuit the course, but if it's in the syllabus, it becomes the expectation and the industry standard for the flight instructor to follow it. Plus, if we do this right, flight instructors will take more seriously their evaluation responsibilities and they will not advance people who, in these scenarios, were not able to demonstrate risk management capably, even if they can physically handle the airplane.

Q: Are there, perhaps, people who can't be taught to be good risk managers?

John: Probably so. There will always be a bell-shaped curve, because some people will have a better predisposition for risk management behavior. Some people have a higher aptitude toward thinking ahead and situational awareness than other people. Just as some people need more practice in crosswind landings, some people are going to need more practice in maintaining an awareness scan. And some people are less risk averse than other people. There was even an article some time back that talked about some differences, based on gender, in pilots. And I feel that it may be legitimate to say that there are gender-based differences in *tendencies* in pilots. I think it's true that women tend to use their superior judgment to avoid situations that might require superior skill. And men tend to say, "I've got superior skill, we're going ahead." That's certainly not true with all women, but I think women tend to be better risk managers by nature. But what we're talking about here is moving the whole bell curve over.

Q: But all of these changes you're talking about wouldn't impact the existing pilot population that much, outside of flight instructors?

John: No. But we have to start somewhere. And we, as a flight instruction community, have our hands on people learning how to fly. We could, tomorrow morning, change how we teach these folks. People who are already out there in the pilot population are going to be harder to reach.

Martha: Except in biennial flight reviews. But you have to get the instructors institutionally in the mentality that a major part

of what they're looking for in a biennial flight review is good risk management procedures and techniques.

John: You know, risk management is a balance. The day after September 11th, we had an enormous improvement in the general aviation safety record, because nobody flew. That's one way to fix the accident rate. But that's not a practical way. So there is a balance. The real issue is how do you make an evaluation about what is an acceptable or an unacceptable risk?

Today, in aviation, if you don't land in a crosswind that exceeds the crosswind component of your airplane, someone will come up to you and say, "Well, you could have done that. You were stupid for not doing that." I want them to say, "Tell me how you justified landing when the crosswind was that bad." We need to turn this around.

Today, someone says to you "why not take that risk?" and I'm saying the culture needs to be, "why would you ever take that risk?"

Q: Even if you could start including more risk management skill training into flight instruction and biennial flight reviews, do you really think a cultural change that significant is possible?

John: Absolutely. In 1970, the scuba diving industry, which is self-regulated, had 110 fatalities per million scuba divers, and in 1999, that rate went down to 7.8 fatalities per million scuba divers. So they improved their fatality rate by an order of magnitude. They changed the way instruction is done in scuba diving. They also changed the tolerance for risk-taking behavior. It's simply frowned on across the board in the industry. In the '70s, scuba diving was a macho thing to do. People did it who sought risk, almost toying with the flame. But the scuba diving industry realized that if they wanted to continue as an industry, they had to make a profound change in how they did things. So they got together as an industry and said, "we're going to change this." One of the other things that would be useful for the aviation industry to know is that an order of magnitude change like this is possible.

One of the things that makes it difficult to accomplish a change of this size is that, as an industry, I think we've had this attitude of resignation. We've said it's always been this rate, it'll always be this rate, and we're resigned to it. But I think we have to conclude that our current accident rate is unacceptable and we can't allow it to continue. Pilots may not see a big risk in general aviation, but the general public sees it as very risky. We have a higher standard of safety in our national culture and there are more lawsuits than there used to be. Like I said before, we don't have a liability problem. We have an accident problem. And if we don't change how we do things, we will lose more than just a few friends. We will lose the acceptance of the non-aviation public as well as our political clout with legislators, and insurance rates are going to keep going up until its no longer affordable to own and fly a general aviation airplane. □

John and Martha King are both experienced flight instructors and the owners of King Schools, based in San Diego, California. They have trained over 15,000 pilots in ground school classes and have developed a wide range of training videos and interactive DVD training products that have been used by many other primary and advanced pilots in flight training.