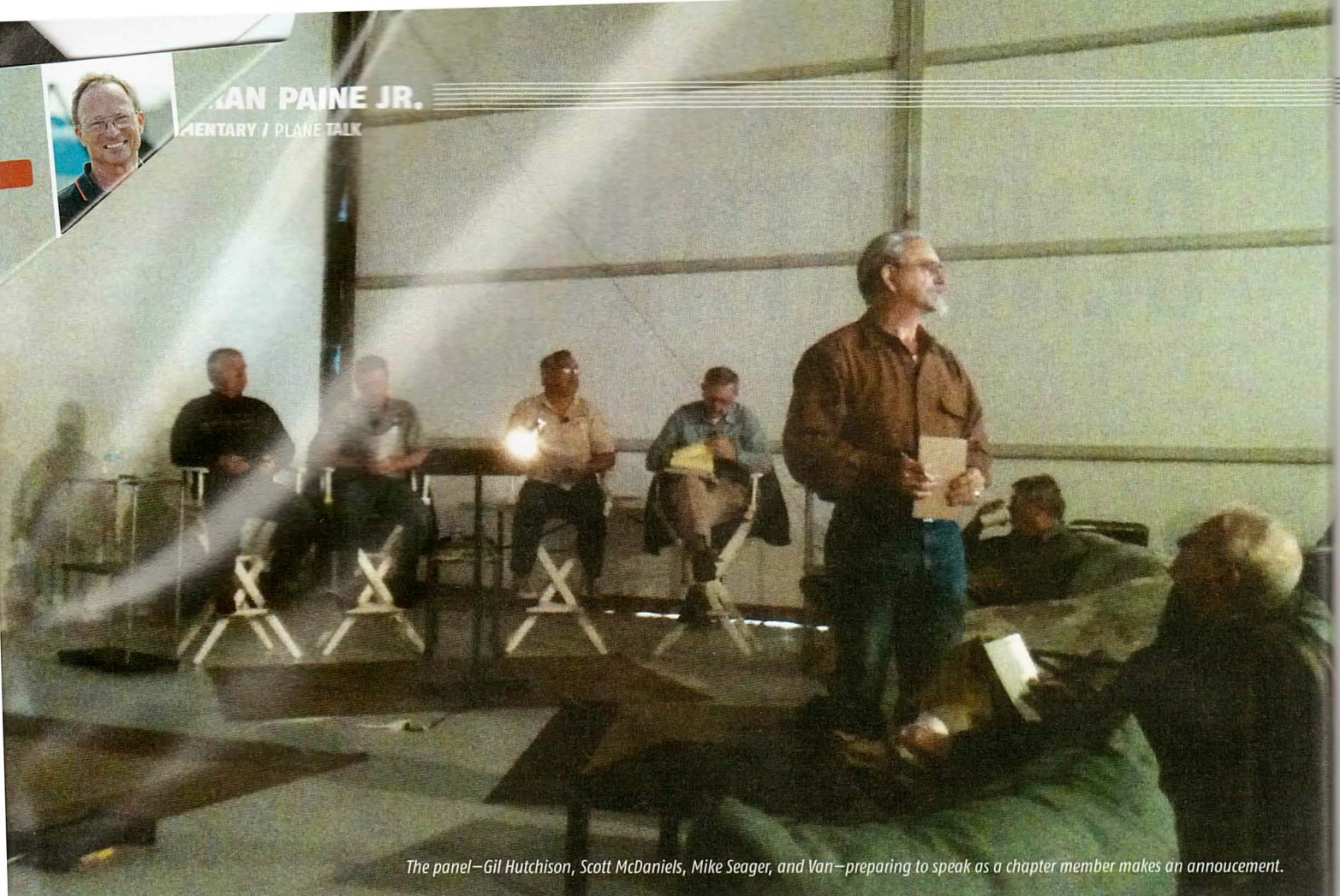




LAURAN PAINE JR.
COMMENTARY / PLANE TALK



The panel—Gil Hutchison, Scott McDaniels, Mike Seager, and Van—preparing to speak as a chapter member makes an announcement.

Work Harder, Work Smarter

Experimental amateur-built safety

BY LAURAN PAINE JR.

MY BUDDY NEL CALLED and said, “You gotta attend this conference. It’s about experimental amateur-built (E-AB) safety. Some ‘big guns’ are gonna be there. You’d better be there or else.” I ain’t afraid of Nel, but I do know that what he lacks in tact he makes up for in perseverance.

I asked, “When, where, and who?”

“Next Saturday at Willamette Aviation, Aurora Airport,” Nel said. “Van, Mike Seager, Scott McDaniels, an EZ guy, and an FAA guy are gonna be there.”

I thought to myself, *Let’s see, Van with 8,000 RVs flying, Mike with 13,000 hours of RV instruction given, and Scott, who works in Van’s prototype shop and knows everything about RVs—yeah, that’s the mother lode of RV experience.*

“I’m in.”

The day dawned foggy, but it broke up in time for some people to fly to the conference. Roughly 30 pilots showed up. It should’ve been 30,000 for the straightforward, honest, and genuine info that was put forth.

Willamette Aviation, located at Oregon’s Aurora State Airport (UAO), hosted the event. Picture the quintessential FBO, just like us old-timers remember them—that’s Willamette Aviation. Small building, lots of old airplane pictures on

the walls, pictures of recent solo students, new private pilots, and such. A desk with a nice lady sitting behind it, a small room with charts, aviation books, and headsets for sale, and a couch and chairs for lounging airport bums. That kind of FBO.

The meeting itself was held in a hangar behind the FBO, nicely set up with chairs, screens. Dave Waggoner of Willamette Aviation welcomed us. Nice fella, and passionate about aviation. In addition to Van, Mike, and Scott, there was Gil Hutchison, a high school buddy of Burt Rutan and representing the EZ fliers. Jim Hultgrien from the Portland-Hillsboro Airport flight standards district office rounded out the group and opened with some remarks. Nel was the moderator. (I had brought some overripe tomatoes to toss his way, but it turned out that I didn't need them.)

Van talked about E-AB accidents. It's never a pleasant subject, but Van doesn't just use a bunch of graphs with numbers; he speaks from the gut (read: heart) after years of experience. That tends to give credence to the subject, to penetrate your aviation soul. Graphs and charts don't do that; Van's words do.

First, Van mentioned that E-ABs have always had a higher accident rate than factory-built airplanes, what he calls "a bad starting point." It's rather the nature of the experimental beast, right? There are unknowns. The Wright brothers had unknowns. World War II flight testing had unknowns (and a horrific accident rate). Space exploration has unknowns. Obviously, we should always be trying to mitigate as many of the unknowns as we can. That's the simple statement.

The reality is that it takes extra effort on our part to reduce mistakes. We must have a safety culture, each of us. So, right off the bat, we in the experimental community need to work a little smarter and a little harder to lower our accident rate. No charts, no graphs, just those words: work harder, work smarter. And think of it this way: Every experimental accident reflects upon all of us. Don't be the guy/gal who adds to the accident statistics that jeopardize our freedom to build airplanes. The reward for working harder and smarter is greater satisfaction, not to mention safety.

Let's briefly talk about some of the more common types of accidents so we can zero in a



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little on how to prevent them. With E-ABs, loss of control and system failures are more prevalent than in commercially built airplanes. Loss of control includes low airspeed accidents (too common); system failures include fuel system failures (too common). Both are correctable. Commercially built aircraft have more weather-related accidents.

Here's something we can throw at the E-AB problem right now: Make a habit of involving other brains in the building and flying process. And not just any brains, but brains that know. EAA flight advisors come to mind. I know of one situation in which a flight advisor asked a pilot just before his first flight, "Do you have enough fuel?" (The advisor had noticed the guy doing several taxi tests and engine run-ups just prior to the first flight attempt.) The guy said, "Yeah, yeah. Just filled it up." Then he took off, ran out of fuel early in the climb, and crashed.

One accident statistic is very clear: Purchasers of E-AB aircraft have more accidents than builders of E-AB aircraft. Builders take some of the initial risks, but they know their aircraft. Thus, it behooves the purchaser to learn about his new aircraft before flying it. However, since I don't want to belabor accidents—there are lots of them on file in black and white, if you want to read more—I want to switch to flying the darn things. It's just my humble opinion, but that's the heart of the matter.

When Mike Seager, who probably has more RV time than any person on the planet, talks, I listen. (Not to mention that he dislikes public speaking, so hearing him is rare. He prefers to do his talking in the airplane.) Transition training is mandatory in my book. Here are some problem areas that he often sees during transition training: lack of currency, being low-time in only one type of airplane, being high-time but having little time in small airplanes, no tailwheel time. And more: weak basic flying skills with regard to the fundamentals of flight—what he calls "climbs, glides, turns, and straight-and-level."

Read that again: basic flying skills. Weak slow flight, weak airspeed and altitude control, overcontrolling, imprecise pattern work, glass panel distraction (information overload while you're trying to fly). He will pull power at 3,000 feet AGL over the airport and ask you to land, using precise airspeed control, on the first third of the runway. Many can do it, some cannot. Can you? "Sure, I can," you say. When was the last time you practiced it? I'm not trying to hurt anyone's feeling here. These items are not speculation; they are observations from a professional. I take 'em to heart.

To prepare for transition training, get current, and preferably in an airplane close to the E-AB type you are building, i.e., a tail-dragger for a taildragger. Get a flight review, whether you are due or not, to get your head in the game. Also, fly solo. Put yourself in the position of having to make all the decisions and honestly evaluate your performance.

Here's where your flying needs to be: There must never be a doubt about the outcome of a maneuver. Smoothly control

altitude and airspeed. Be stable on approach, and consistently perform good takeoff and landings, tracking the centerline. Be able to do a well-planned and smooth go-around. Be able to slip to a landing. When you fly, put demands on yourself, and make your flying count. Do slow flight, stalls, and spot landings often. If all you want out of your flying is to take off, fly around a bit, and land on big runways, fine. But do not hop into your E-AB with that back-ground and expect to do well. Involve another brain.

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During the test phase of your E-AB flying, have a plan. Do not just bore holes. The test phase is when the airplane teaches the pilot. Actually do the items that you sign off at the end of the test-flying phase. Fly the maneuvers, fly the various weight ranges, and fly the various CGs. Experience that stuff during the test phase, not during a cross-country.

You may not be able to experience the hot-and-high airport within your assigned test area, but you should write down your performance data and then apply the Koch Chart percentages when you get to the hot-and-high area. That guy off the end of the runway at that little airport in Colorado? Maybe he didn't think performance data was important that day. Not comfortable with that? Then employ a professional test pilot to do at least the initial flight for you. That's not shame, that's smart.

I recently renewed my CFI certificate. One of the study units was about the

shifting training focus of the FAA. They made the statement, "GA accident data from the last two decades shows that about 80 percent of the accidents are the result of human factors." Makes sense—100 percent of GA airplanes are flown by humans. The FAA went on to say that it "believes that students should be trained to operate in the real-world environment rather than merely to accomplish maneuvers on command."

So the feds established Flight Industry Training Standards (FITS) using scenario-based training. And they came up with a risk assessment matrix, complete with lots of boxes, pretty colors, and fancy words. Then they use the three p's (perceive, process, perform). You perceive with PAVE (Pilot, Aircraft, enVironment, External pressures). You process with CARE (Consequences, Alternatives, Reality, External pressures). And you perform using TEAM (Transfer risk, Eliminate risk, Accept risk, Mitigate risk). Are your eyes crossed yet?

Okay, just me talkin' here, beat me up if you must. Bring me 20 pilots. Ten will sit in class four hours a day for a week learning the three p's in scenario-based training using PAVE, CARE, and TEAM until it gives them FITS. The other 10 will fly maneuvers and traffic patterns for four hours a day for a week. At the end of the week, which 10 are going to be the better pilots? Here's the deal as I see it: The better you fly, the better you know your skills and the capabilities of your airplane, and the better the flying decisions you'll make.

The guy who ran off the end of a short runway probably didn't know he couldn't do that because he hadn't really practiced it. The stall/spin accident? That guy probably hadn't done an accelerated stall in a long, long time, so he lost his ability to recognize the onset. Sure, anyone can have a bad day and have an accident, but generally it's the unknowns that get you. The more you prep and fly, the fewer unknowns you will have.

Sure, I'm poking some fun at the FAA. (It's a proclivity I have, learned it at an early age. Most feds I know just poke it back at me.) All aviation learning is important, but the most important things to know—I'm sticking to my guns here—are your flying limits, and you learn that by flying.

Remember, you establish your limits. I flew professionally, military and airline, for roughly 35 years. I flew the fancy airplanes into the crowded airports in the demanding weather and all that stuff. And I loved it, loved the challenges. We often went to the limits, but that's because we knew exactly what the limits were. When you fly 70 hours a month, year after year after year, you learn something else: Stuff happens. Even when you're trying to do everything right, stuff happens. The challenge is to recognize the situation as far out as you can, and deal with it methodically and safely. If you can't, then get out of the situation. And I can guarantee that if you make a habit of cutting corners, sometime, somewhere, it's going to bite you in the butt.

Today I'm "Joe VFR" in my nonautopilot, nonglass, VFR airplane, and all by design. In retirement I wanted to go back to where

I first started flying, to return to the joy of wandering and looking outside. And I'm very happy with all that. I've set new limits from the professional days. In fact, I'm probably more cautious than the new 350-hour private pilot. Fly into reduced visibility? Not a chance. I know what's in reduced visibility: worse visibility.

I can guarantee that if you make a habit of cutting corners, sometime, somewhere, it's going to bite you in the butt.

Let me give the E-AB pilot one more thing to think about: One-third all E-AB accidents are due to the malfunction of an inspectable item. Hm. It's up to us to do something about that, isn't it? We do the inspections. Use a checklist. Be methodical and critical. Don't get lazy, and have the attitude that you *will* find something. Have a good flashlight and more than one type of inspection mirror. When in doubt, ask, and remember that inspecting is a learned skill—don't let anything slide. Listen more than you talk. Help is always available from the aviation brotherhood.

Flying is a very personal thing. I do my thing and you do yours. Most pilots I know are very professional and conscientious. They read and listen just to know what useful tidbits of information might be out there for them. So, when Van, Mike, and Scott speak and say we need to improve some things, then I figure we need to improve some things. All of us. After all, we are a brotherhood. *EAA*

Lauran Paine Jr., EAA 582274, is a retired military and retired airline pilot. He built and flies an RV-8 and has owned a Stearman and a Champ. Learn more about Lauran at his website, www.ThunderBumper.com.