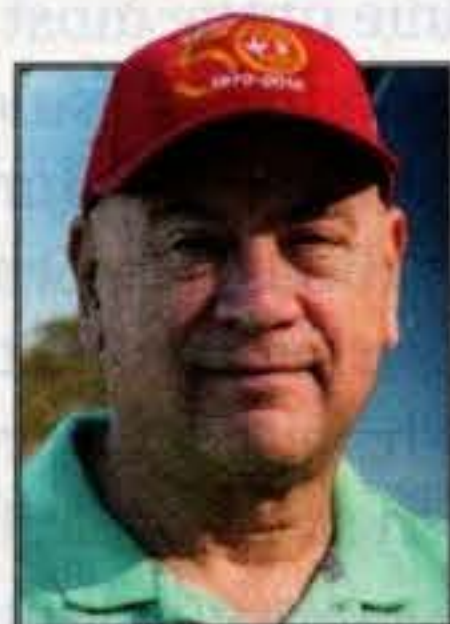




The Biggest Question in Homebuilding

The answer might surprise you

BY VIC SYRACUSE



I BET MANY OF YOU already know what the biggest question is, especially if you have already built an airplane. You probably hear it as often as I do. It usually sounds something along the lines of "How hard is it to build an airplane?" or "Do you think I could build one?" If you happen to be at EAA AirVenture Oshkosh for the first time and are wondering if you have the right stuff to build an airplane, it can be quite intimidating after seeing row upon row of picture-perfect airplanes with cockpits that look like the bridge on a starship. In reality, your first airplane doesn't have to be that way. While I'm seeing more and more "perfect" examples from first-time builders, no airplane is really perfect. Some just look that way.

I don't think it has ever been easier to build an airplane than it is now. My guess is that, for a lot of reasons, it's only going to get easier. First, many of the more popular kits really border on being an assembly project with a higher fun factor than something you might pick up at Ikea. In the case of the later model RVs, like the RV-12 and RV-14, all of the pieces have the holes already match-drilled, so there are no alignment jigs needed. I remember when I built my RV-4 back in the early '80s, I spent many weeks building the jigs for the wings and fuselage prior to doing any building on the actual airframe. The jigs were built out of wood, so given the seasonal changes in the weather in northern Ohio (winter, June, construction season), I was intent on finishing the respective aircraft assemblies before the wood warped!

CELEBRATE THE STEPS



Building an airplane is a long process. You should take the time for some feel-good celebratory time as you complete various parts of the aircraft, from the big arrival day to the completions along the way.

All of the kits and plansbuilt aircraft from not too long ago omitted any guidance on engine or avionics installations. However, many kits today come with everything you need to install the engine, and some of the airframe wiring is even included. While a glance into the latest IFR cockpits with all of the bells and whistles can be somewhat intimidating to first-time builders, a really high majority of those fancy panels are prebuilt by avionics suppliers. The need to run every single wire and understand how to hook up all of those individual components to each other is not needed unless one so desires to do it. Even FAA guidance for the amateur-built rule allows for help in areas such as engine, avionics, interiors, and paint without violating the 51 percent builder requirement.

There's also a whole lot of help for builders today, in the form of technical counselors, online forums, FAA publications such as AC 43.13-1B, webinars, and even YouTube, to ease the decision-making steps and for support during the building process. Since a good percentage of building usually happens after hours and on weekends, getting stuck on something isn't nearly as impactful as it used to be. Yes, we did have electricity and phones when I started building, but we didn't have the internet, and we had to

wait until after 7 p.m. or later to make long-distance phone calls or the rates were pretty expensive. It's amazing how many texts with a picture I now get from builders looking for advice on a particular item. It really gives meaning to a picture being worth a thousand words. It's also much faster than putting a picture in an envelope and waiting a couple of weeks for a response! When you find a friend or tech counselor to help you along the way, work with one who will be willing to give you honest feedback when you have done something wrong. It will make a huge difference in the quality of the completed project.

The idea is to pick an airplane that you feel comfortable with, both from an appeal aspect and from a skills-required perspective. The three primary types of construction — metal, tube and fabric, and composite — all require different

skills but may have some other defining reasons of choice for you. As an example, if you happen to live in an apartment, the loud noise from riveting may not make the neighbors happy. However, an aircraft that is primarily built from pulled rivets could be a viable choice. The smells from building a tube and fabric airplane might not go over so well with the neighbors either. Conversely, you might find that you are allergic to the resins needed to build a composite aircraft.

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EXPERIMENTER

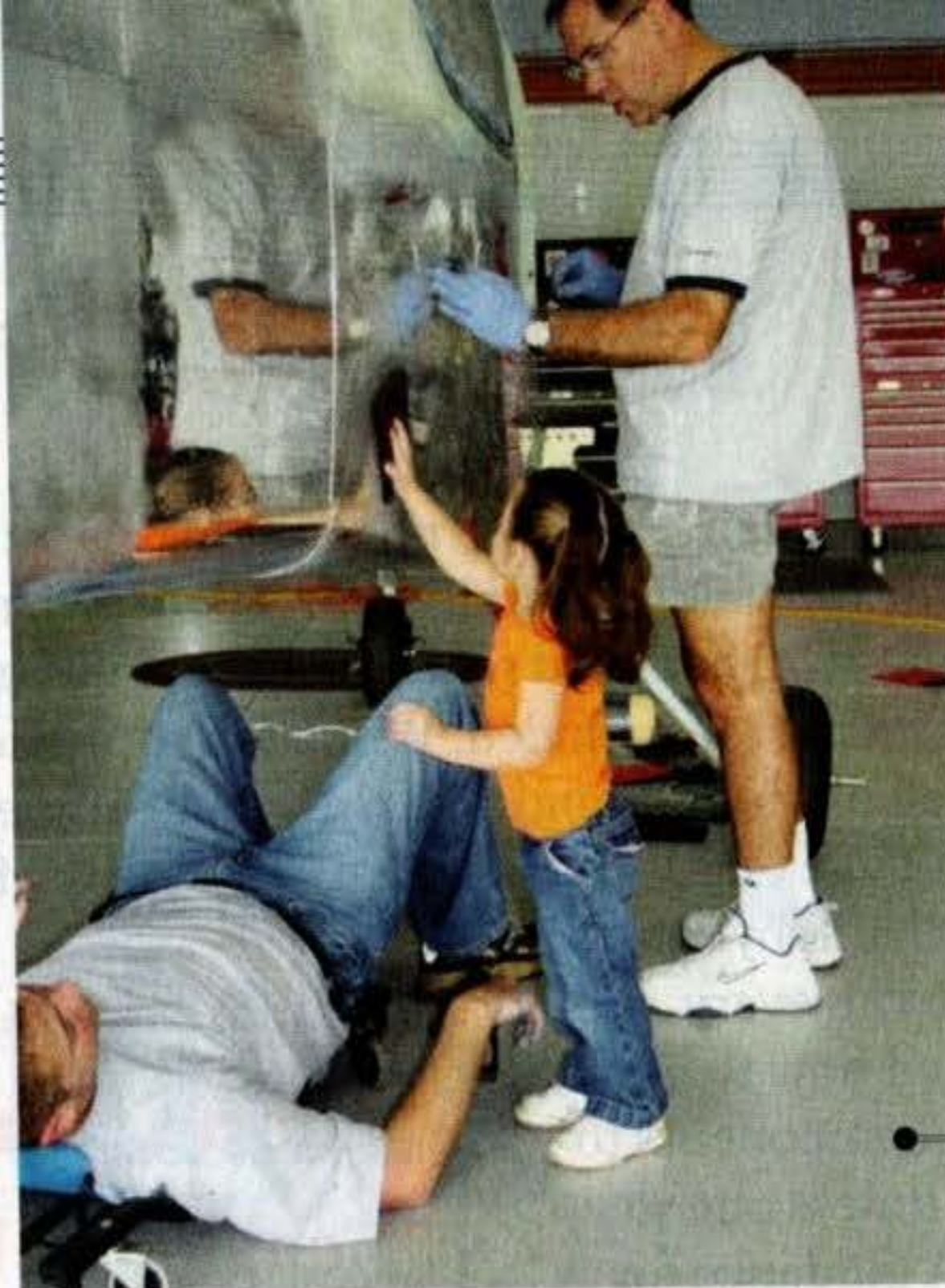
CHECKPOINTS

As for learning the skills you need for each of them, don't let that be a showstopper until you've tried them. Plenty of workshops at AirVenture give you a chance to try all of them, along with various workshops during the course of the year as well. There's an even better chance that someone living near you may have built or is currently building one and would be willing to let you see it since there are roughly 30,000 amateur-built aircraft on the FAA Registry. I assure you that the skills can be learned, much like I did, and certainly Rosie the Riveter set the example for all of us. So, unless you are the type of person who doesn't want to be in the same room with a sharp pair of scissors, you will not only learn new skills, but also be fantastically rewarded along the way.

The camaraderie that you will develop and the people you will meet will be one of the greatest things you can imagine. Personally, our best friends in life have been met through aviation, and this is coming from a person whose primary job in life was not aviation-centric. There is a bonding amongst aviators, and especially amateur-built aviators, that defies explanation. I know we are taught about the four natural forces in the universe, but I think that there is a fifth force, and amateur aircraft builders are its source.

Once I get finished convincing someone how easy it is going to be to build an airplane, especially after we have gone flying and really driven the stake home, I take the time to explain that, although it will be fun, it is also work. It requires dedication, a willingness to accept setbacks (oh, yes, there will be mistakes), along with financial resources, and family support. Let me add some color to those.

A few weeks ago, one Sunday morning, I was asked who I was rooting for in the Super Bowl. I replied that, quite honestly, I didn't know who was playing. I've just never been a watcher. Last fall, I flew over to Alabama on a Saturday morning to certificate an airplane, and I was asked if "my team" was playing today. It was then that I noticed all of the orange shirts on the people hanging around. Quite frankly, Saturdays have mostly been about aviation for me, as I worked in technology during the rest of the week.



FAMILY INVOLVEMENT

Take the time to involve the family during the journey. Pulling Clecos in and out of metal airplanes is a good time for that. Involving the little ones in using a new tool can be entertaining. Of course, when it comes time for sanding prior to paint, there are never enough hands!

LIFETIME FRIENDS



The really neat friends that you will meet along the airplane building journey are priceless. This is one of our spontaneous meetings at AirVenture with some friends gained in almost 40 years of airplane building.

I'm not saying you have to give up watching sports or your favorite TV series, but we all only get so many hours. The gentleman I went to see in Alabama took 19 years to build the RV-6. Many of the kits today can be built in less than a year if you are willing to put in the time. Which is more important — remembering the score of the Super Bowl or having an airplane that you built in your hangar? I have found that having the airplane is a whole lot more memorable and rewarding.

Do make certain you understand the financial commitment that is needed to complete the project. I feel so sad when I see builders having to sell their uncompleted aircraft due to money. It's heartbreaking, because unlike selling something else, usually there is a lot of sweat equity in the project. As for family, that goes side by side with the dedication discussion. There should be a balance. Certainly, the best of both worlds is to have the involvement of family when possible, or at least minimize the impact. It's a whole lot more fun in the end for everyone.

By the way, don't let any concerns about physical disabilities impair your decision-making. I have had the honor of certificating more than one amateur-built aircraft that had been modified by the builder due to physical limitations. They're all having a lot of fun now. In one case, the builder has built multiple airplanes.

So, don't hesitate to ask the big question and take the next big step. I promise it will be fun. **EAA**

Vic Syracuse, EAA Lifetime 180848 and chair of EAA's Homebuilt Advisory Council, is a commercial pilot, A&P/IA, DAR, and EAA flight advisor and technical counselor. He has built 11 aircraft and has logged more 9,500 hours in 72 different types. Vic also founded Base Leg Aviation and volunteers as a Young Eagles pilot and an Angel Flight pilot.