



# Getting Started

10 Pre-Building Concepts That Foster Success

BY BUDD DAVISSON

**IT'S SURPRISING THAT AIRPLANES** aren't listed as narcotics in at least a few states. They are highly addictive, expensive, and known to dumb down an individual's ability to make some types of decisions rationally. No place is this truer than when it comes to getting started in aircraft homebuilding. Far too many jump into the deep end of the homebuilding pool without giving enough consideration to the various factors that affect their actions. So, for those thinking of taking the plunge, here are 10 items that should be factored into the process of deciding to build a flying machine.

1

## FAMILY IS DECISION FACTOR NO. 1

Airplanes are not built in a vacuum. Unless builders live alone, they have connections and obligations that have zero to do with the airplane they're planning on building in the garage. Or back bedroom. Or patio. Family is one of the most overlooked aspects of getting into the airplane building game, when it should be considered numero uno right from the get-go.

For one thing, there is no such thing as "free" time. Time always comes from somewhere, and if a wannabe builder is married with a family, that is where the time too often comes from. This is not always

a good thing. Even if the family totally backs the building project, this support sometimes lags when Little League games are missed or we're not in the front row at Sissy's school play or cheering like an idiot on the 50-yard line when Junior scores his first touchdown. To guarantee that resentment doesn't begin to bloom within the family unit, that time has to come from the builder's own normal allotment of hours, not the time that belongs to others. A builder would be surprised how much can be accomplished at 0430 before anyone gets up or at 2300 hours after everyone has conked out. Just one hour at both ends of the day will accomplish building miracles with zero family stress. Besides, within the airplane-building community, it's a given that sleep is highly overrated. Failing that, careful scheduling has to be done that fits building around the family schedule in such a way that no one is inconvenienced.



**2 PICK THE RIGHT DESIGN**

What's the definition of "right"? Often, even the builder doesn't absolutely know unless he or she has given it some intense thought before starting to cut metal or make sawdust. To make the design selected more likely to be finished the builder must:

- Match the airplane to the mission. Define what you want to do with the airplane (cross-country, \$200 hamburgers, pure fun) and evaluate how your family/job/financial situation affects that definition. Also include the family in terms of whether it should be one, two, or four place.
- Match the material to the builder. Usually the material to be used is determined by the design selected, but often it's the other way around. Some builders can't see themselves flying something they've welded. Or riveted. Or glued. Although the skill-development programs available through EAA eliminate the need for experience in any specific building skill, some folks are just more comfortable with one material than the other.
- Love the design. A successful builder is always wildly in love with what he or she is building, and this passion will enable him or her to bulldoze over any obstacle. Don't underestimate the need for passion.

**3 HAVE REALISTIC TIME EXPECTATIONS**

Although we often hear about so-and-so who finished a Zorch Cosmo plane in three months, that's not the norm. Life is always trying to get in the way, which makes the project stretch on for years. Three years is probably a good average for a kitbuilt. Regardless, it's going to take longer than the builder thinks it will by a wide margin. Just be prepared for that and don't get discouraged.

**4 HAVE REALISTIC FINANCIAL EXPECTATIONS**

All airplane projects take more time and money than we expect. Sometimes a lot more, and, normally, no amount of planning can avoid that. Just know that a lot of money will be going out and none coming in. That's just a reality of building airplanes (Or cars. Or boats.), and something we have to prepare the family for. However, little Jenny should not have to forego drama camp just because you need a set of wheels and brakes. Plan ahead! Far ahead! Then double your estimate and add 20 percent and you might be close.

**5 HAVE A DIGITAL MINDSET SO YOU DON'T HAVE TO WORRY ABOUT THE SKILLS REQUIRED**

EAA has anticipated every possible educational need and has videos and booklets dedicated to training a builder so

they can safely do virtually anything required in building an airplane. However, any present day homebuilding project is floating on top of a huge foundation of digital help that didn't exist a few years ago. Anyone with a computer, tablet, or smartphone is only a few clicks away from highly experienced communities of builders who are ready to jump in and help solve every problem or teach every skill, regardless of what it is.

**6 SPACE: THERE'S NEVER TOO MUCH, BUT THERE ARE MINIMUMS**

Yes, airplanes have been built in back bedrooms, seldom-used hallways, and tents in the backyard. Those are not conditions, however, that are conducive to completion. Airplane projects have all sorts of ways that they can fail, but lousy, uncomfortable, cramped building quarters can only be overcome by a larger-than-normal amount of determination/intestinal fortitude. A building area doesn't have to be huge, but a single-car garage should be the bare minimum, with a double garage being preferable. A thought: I know a builder who found a nearly abandoned storefront that the owner couldn't rent, and the builder got it for a song on a two-year lease. Shop around. You never know what you'll find.

**7 BE GOOD AT MANAGING YOUR TIME**

Discipline is critical when it comes to projects as big as building airplanes. Few of us can just saunter out to the shop when the mood strikes us. We usually have to look ahead and see what blocks of time are available to us. Better yet, it helps immensely if we look at the project and mentally separate each component into half-hour chunks, then imagine how much we can get done in a half-hour and how many of those chunks will be needed to finish that part. When we see a half-hour opening in life's proceedings, we can rocket out to the shop and work like a beaver for 30 minutes. If we wait until we have six hours to devote to it, some of us will never get it done. You'd be amazed what can be done in a half-hour, if it's well-planned activity.

**8 DEVELOP A "PROJECT ORIENTATION" MINDSET**

When building any big project try not to think of the project as a whole. Consider it a huge pile of little projects, e.g., right now I'm not building an airplane, I'm building a wing fitting. By approaching it that way, your work time is constantly sprinkled with little achievements, and that progress breeds a feeling of satisfaction that keeps us going. If you're constantly thinking about the entire airplane, it's really easy to get discouraged because visual progress is often slow. The project should be the piece you're working on at that moment. Not the airplane.



9

## MAKE MENTAL "SHOP PLANNING" PART OF YOUR DAY

There is no substitute for walking into the shop already knowing the goal for that session and having how it's going to be accomplished in mind. Most successful builders have a mental sidetrack running throughout their day that is focused on a specific building task. So, when they step in the shop, they've already done that job several dozen times in their mind so the hands-on activity progresses quickly, with a minimum of mistakes.

10

## RECOGNIZE THE VALUE OF AN ORGANIZED (NOT NECESSARILY NEAT) SHOP

Building progresses much faster if you're not constantly looking for a given tool or piece of material. For some, this means a shop that looks like an operating room: clean and sterile with well-finished cabinetry and outlines of every tool painted on a back board. Others, who are often just as successful, have workshops that look as if a bomb has gone off in them. I live in one of those. However, what the casual observer doesn't realize is that what looks like disorganization is actually "organized disorganization." Every single tool, every component, every piece of material has its place in the shop, and part of building discipline means that everything returns to that stack, that hook, that corner, when not being used. As random as it seems, I can be blindfolded and lay my hand on everything I'm looking for. Organized disorganization works. Normal disorganization really slows down a project.

**The single most important factor is simply his or her knowing that "what" is being built is of secondary importance to "how" it is going to be built.**

## SUMMARY

There's no doubt that there are probably a dozen other factors that a builder should include in his or her pre-build understanding and preparation. However, the single most important factor is simply his or her knowing that "what" is being built is of secondary importance to "how" it is going to be built. And all of that can, and should, be done before ordering a single piece of hardware. Mental preparation reigns supreme. *EAA*

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**Budd Davisson** is an aeronautical engineer, has flown more than 300 different types, and has published four books and more than 4,000 articles. He is editor-in-chief of Flight Journal magazine and a flight instructor primarily in Pitts/tailwheel aircraft. Visit him on [www.AirBum.com](http://www.AirBum.com).