

Amateur aircraft building grows in the Flathead

Pilot Project: Crafting Airplanes at Home



Tom Kuffel works on fabricating tiny brackets that will be attached to an instrument panel on the Sportsman 2+2 airplane he is building at his Whitefish home. - Lido Vizzutti/Flathead Beacon

By [Myers Reece](#) , 06-03-09

WHITEFISH – This bird will fly someday. But for now, Tom Kuffel’s airplane is resigned to the garage. Kuffel will tinker and hammer, drill and sculpt, take trips to Ace Hardware and order parts from specialty distributors, experiment and innovate, until his homebuilt aircraft is ready for the skies.

Kuffel, a pilot since 1973, dreams of his first flight in his Sportsman 2+2, yet he understands the value of patience. As one of thousands of Americans in the ever-growing amateur-built aircraft movement, Kuffel has been working on his plane for two years. Ask him when he thinks it will be finished and he promptly replies, “Wednesday.” In other words, it will be done when it’s done.

Kuffel is a member of the local chapter of the Experimental Aircraft Association (EAA), a national organization based out of Oshkosh, Wis., Since its inception in 1953, the EAA has grown into an international organization with more than 170,000 members and 1,000

chapters worldwide.

The Flathead chapter, EAA 102, was established in 1961 and today has more than 70 members, most of whom are either building or interested in building their own aircraft. They are all licensed pilots who share a love of recreational flying. There are other chapters throughout Montana, including a large one in Missoula.

The organization provides a forum for networking, where builders and pilots can share advice and check out each other's projects. Only so much can be learned through manuals and books. The rest of homebuilding is trial and error and experimenting, as the name suggests. It's nice to bounce ideas off peers. Also, the EAA gives recreational pilots a voice in government matters.

David Schmeeckle, the local chapter's president, said his organization also offers a program called Young Eagles and holds events throughout the summer. Young Eagles is a chance for kids to take a flight with a pilot and learn about how an airplane works. The next Young Eagles flights are scheduled for the morning of June 13 in Polson.

The Federal Aviation Administration oversees a testing period for amateur-built planes before they take to the air. Kuffel, one of a handful of EAA-certified flight advisors in the state, said the crash rate of amateur-built aircrafts after 40 hours of testing is nearly the equivalent of certified factory planes. He reminds that experimental planes aren't used for commercial purposes, only personal recreational aviation.

"Once you test the airplane, the cause of accidents is the pilot," Kuffel said.

Building an aircraft at home is a painstaking process, though it varies depending on the preferred method. Builders choose from three basic options: building from scratch, using a kit assembly or using a factory-assist plan in which a certified mechanic oversees the process.

Or a builder can combine the methods, as Kuffel did by opting for a factory-assist plan initially to help with the plane's body and then transporting it back to his home to do the rest by himself from scratch. Kuffel has proven to be innovative and creative, though he emphasizes he is a pilot first and a builder second. Others in the organization are far more experienced and adept at building, he said.

One of the foremost advantages to building his own airplane, Kuffel said, is the freedom to experiment. He doesn't have to abide by the strict parameters of regulations for factory-made aircraft, which allows him to customize his aircraft for comfort and performance, as well as utilize advanced technology. He said his GPS – which has an attached AM/FM radio and CD player – is beyond anything one would find in a factory plane.

Kuffel is employing his expertise in electronics and intricate mathematics while building his Sportsman. Before embarking on a career in computers, Kuffel studied applied mathematics and experimental physics in college.

“Electronics are moving faster than the FAA,” Kuffel said.

Every detail is vital. Kuffel meticulously weaves together the electrical system, attaches switches and shapes panels. He designs and fabricates even the most basic of brackets – store-bought products often won’t fit into his plan. In another example of specific custom fitting, Kalispell resident Tom Hicks is constructing his Zenith 701 to be more suitable for backcountry airstrips.

Kuffel said he isn’t nervous that something will go wrong or that he’ll miss a step. In fact, by controlling every facet of the building process, Kuffel expects to be more comfortable in his plane. The aircraft will fly precisely as he wants it to, which wouldn’t be the case with a factory plane. Anything that needs to be smoothed out will be taken care of during the testing period.

Not to mention, homebuilding is much cheaper. When Kuffel’s plane is completed, he will have spent about \$150,000, including a state-of-the-art \$25,000 engine. A Cessna 172SP goes for \$241,000 and a Cessna 182 sells for \$326,000 brand new. Kuffel prefers his two-person plane to each of the Cessnas for both comfort and performance.

“Homebuilders tend to be an independent-minded group, to say the least,” Kuffel said. “I think it does a lot for keeping our freedom going, keeping our brains going and having a little fun.”

For more information on the local Experimental Aircraft Association chapter, go to <http://www.eaa102.org>.