

McKinley's "C"

The family who flies together...
builds airplanes together!

Sparky Barnes Sargent, EAA 499838



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HOW OFTEN do you meet a family who not only flies together, but who also takes their personal commitment to aviation a step further by building an airplane? →



Grandparents Bob and Thelma Jean, Rand and McKinley, and Legend Cub's Oran Boyette.

Teenager McKinley Siegfried and her family have done just that.

McKinley, of Palo Alto, California, grew up thinking that aviation was a normal way of life. Her father, Rand, EAA 282820, also grew up that way, so McKinley knew from an early age that she was expected to solo a glider on her 14th birthday and an airplane on her 16th. It was just part of being a Siegfried. After all, her father, uncles, and an aunt soloed gliders when they were 14 and then soloed a Piper Cub after that.

Rand has been involved in aviation ever since. He's a certificated flight instructor who enjoys flying a variety of aircraft, including a Stearman, Beech 55, Beech 18, T-6, and a Ford Tri-Motor. He's a lifetime member of EAA and is currently serving a three-year term as an EAA Class 1 director. It was just natural to instill in McKinley, and in his son, Cormac, a similar love of aviation.

In addition to the annual family pilgrimages to EAA AirVenture Oshkosh, McKinley was also a participant in EAA's Wild Blue Wonders program when she was in seventh

grade. "We got a team together from her small rural school," explains Rand, smiling. "We spent a year teaching them about flying. Then we took them to the Golden West Fly-In, where they won a competition, and I took the kids to Oshkosh for the nationals, so we have spent a

"It's fun when the entire family can relate and connect to each other over one thing."—McKinley Siegfried

fair amount of time doing aviation stuff together."

All that "aviation stuff" led to McKinley upholding the family tradition by successfully soloing a Schweizer 2-33 three times on her 14th birthday (with her father flying the towplane). On her 16th birthday—July 1, 2007—she soloed a Piper Pacer (co-owned by her grandfather and uncle). She celebrated turning

sweet 16 with cake and candles, too. When she opened the envelope her parents gave her, she was caught entirely by surprise—and a very pleasant one, at that.

"It had an airplane on it—I couldn't believe it," says McKinley with a smile. "They had bought a Texas Sport kit for me, and I told them I felt like the 'Princess Diaries,' where she asked for a car and got a country—I asked for aviator sunglasses, and I got an airplane! I was so shocked, especially because they told me that I wasn't going to get an airplane."

TEXAS SPORT

McKinley's parents, Andy Cunningham and Rand, discovered the newly announced Texas Sport kit at the American Legend Aircraft Company's vendor display area during the 2007 Sun 'n Fun Fly-In at Lakeland, Florida. That's when they were inspired by the idea of providing their daughter with the opportunity to build a new airplane. "She's been a typical teenage girl in a lot of ways," says Rand. "She's not like a gear-head or anything, but she's wanted to know how things work, and we just thought, you know what, this is perfect, this will do it; she'll get a thorough understanding of the

process and what goes into it."

Not to mention that it was an opportunity for the family—including grandparents—to lend support for the project, too. "It's fun when the entire family can relate and connect to each other over one thing," says McKinley.

The Siegfried family was the first to purchase and begin building the Texas Sport kit from Texas Sport Aircraft

Company. This amateur-built aircraft can be certified at a gross weight of 1,320 pounds (sport pilot-eligible) or 1,600 pounds. The cockpit is several inches wider than a Piper Cub, fuel tanks are in the wings, and it can be powered by either a 120-hp six-cylinder Jabiru 3300A or a 100-hp four-cylinder Continental O-200. The kit includes virtually everything except instruments, engine, and propeller. (For more information on the Texas Sport Cub, visit www.TXSport.aero.)

They enrolled in the company's on-site *KwikBild* Builder Assist Program at the Texas Sport facility in Sulphur Springs, Texas. Rand describes the kit components and building process: "One of the timesaving aspects of the builder-assist program is that when you need a part, it's right there—you don't have to find it, hunt for it, order it, or make it fit, because it's new. The kit includes the welded and painted fuselage, and you have to bolt everything in—the seats, floorboard, and controls—and you have to route the control cables. The wings are partially assembled and some of the ribs are on, so you run the cables, install the fuel tanks and fuel system as well as the pitot static system."

McKinley says the fabric covering took a while, but it was also rewarding; it was her favorite part of building the airplane. "I'm kind of an artsy person, and I like that aspect of putting my own creativity into it. I designed the paint scheme, which is modeled after Harold Krier's Cub, with my own twist on it. The N number, 416MS, is special, too—the airplane was 4 my 16th birthday, and the M and S are my initials."

There are at least two more personal touches that make this airplane uniquely hers—one is readily visible upon entry to the cockpit, where "Built by McKinley" is emblazoned on the door. The other is more obscure, and you might not even notice it, even if you were fueling the left wing tank—though you'd be looking right at it. It's a pinked-edge fabric heart "tattoo," just aft of the

leading edge, beside the fuel cap. She applied it to the wing during the fabric-covering process.

CHALLENGES

In the midst of her high school years, one of McKinley's challenges was finding time to work on the airplane without playing hooky. Father and daughter traveled from California to Texas for their first 55-hour work week just before EAA AirVenture 2008 and then again for a week

about how the engine works and "all these things I didn't know before, so that was the rewarding part."

Toward the end of the process, she felt some pressure to finish it. "I wanted to get it done before spring break was over. I knew I had to get back to school, and I felt like things weren't coming together—there were so many things happening with firewall forward, and it still looked the same; I couldn't see much progress."



McKinley learns it's important to align the fabric as neatly as possible.

right after Oshkosh. They scheduled another week during McKinley's Christmas break, and Rand made a couple of solo work trips, just to ease the project forward. Together, Rand and McKinley completed the airplane build during her spring break week. During that week, her mother, younger brother, and grandparents Bob and Thelma Jean traveled to Texas to lend a hand.

McKinley had no trouble defining the most difficult part of the building process. "The whole engine and firewall forward—it was a foreign language to me, and everything they were doing was just totally beyond my knowledge of anything I'd ever seen or heard of before!" She admits it was confusing and frustrating at times, but that it was also fun to learn

LESSONS LEARNED

Aside from learning about the actual processes involved in building such an airplane, father and daughter learned a few other significant lessons. They learned the importance of teamwork, and developed a healthy respect for each other's capabilities through each phase of the project. Rand shares his wisdom from a parental perspective, "We felt the only way we could guarantee success with a teenager, especially in today's world where there's so much draw and pull, was to get down there away from home and do it in a concentrated chunk where you spend your time on it."

McKinley wholeheartedly agrees. "We actually tried to do something similar with an old pickup truck,

“To me, it’s about education and enjoyment, and I can’t think of a better way to get educated than being around mentors all the time who are teaching you.”—Rand Siegfried

because I wanted to learn how the engine worked. I wanted to be able to talk to boys and be smarter than them in that area—but honestly, nothing has happened, and we’ve had it for like two years now.”

They both surmise that, if they had worked on the project off-site, it would have taken them much longer—and they might not be as pleased with the result. “We definitely put the hours into building the airplane, and I think we ended up with a better-quality, safer product in the end because we had several highly experienced people to go to when we had questions,” Rand reflects. “In fact, we got some differing opinions occasionally, which is fine—we got to do it whichever way we wanted. To me,

it’s about education and enjoyment, and I can’t think of a better way to get educated than being around mentors all the time who are teaching you. And you also get a good set of eyes looking over your shoulders!”

FIRST FLIGHT

N416MS received its temporary airworthiness certificate on March 27, 2008, just two weeks before Sun ‘n Fun. Rand had the honor of flying the initial flight, and then his father was able to remain in Texas and fly most of the required initial 40 hours. While McKinley continued with her classes in California, Rand returned to Texas just in time to fly the airplane to Sun ‘n Fun (where McKinley would fly commercially and meet



McKinley and her grandma Thelma Jean enjoyed working together on the sheet metal.

her parents for the weekend). “I grew up flying Cubs, but I didn’t have the opportunity for 25 years to fly them much,” Rand recalls. “We flew as a group of six Legend Cubs from the factory in Texas to Lakeland, and the guys told me I had a smile on my face for two days—I had a lot of fun.”

McKinley was eagerly anticipating flying her Texas Sport “Cub” and drew an interesting analogy from her horseback-riding experience. “I get the same feeling when I’m around the airplane that I do around a horse—it’s like a living, breathing animal to me. And with the airplane, it’s like I gave birth to it, so I’m really excited to fly it!” Then her father chips in with a grin, “The really odd thing is that it only took us several weeks in a chunk, but it was spread out over nine months!”

While they were at Sun ‘n Fun, McKinley seized the opportunity for which she’d been waiting—to solo her airplane. Rand proclaims that “she did wonderfully, and had a blast and came back all smiles.”

The family had an “outstanding trip” back to Texas together with two other Cubs. “There could not be a better way to get someone hooked on flying than a trip like that,” Rand says. “McKinley has spent thousands of hours traveling by air, but during this trip she said it was the most fun thing she has ever done. She was totally thrilled with the flight, flying, and especially with her airplane.”

EARTHLY—AND AERIAL—REWARDS

The rewards from this family project continue to unfold; not only do they have a brand new airplane and a wonderful treasure trove of memories from the building experience, but they have also all grown closer through the experience. “First of all, I think building the airplane with my dad has been such an amazing experience,” McKinley says. “We started out being really close, and I think we just got closer. It was a lot of fun, so I would definitely suggest a parent-child relationship for a project like this. And second, when you first get



Rand holds the guide while McKinley drills the hole.

there, it's just a pile of parts! There's some fabric over there, and an engine comes in, and a propeller—and I just couldn't [visualize] the whole airplane—I was sure it wasn't going to fly. I had so many doubts; I didn't think I could actually build it—and then to see my dad flying it was just so incredible. I feel empowered because of the whole experience."

For Rand, the fun thing about building the plane with his daughter was to observe how much she learned.




Getting acquainted with inner tubes, tires, and wheels!

At the very end of the project, when she asked him what she could be working on, he suggested that some receptacles needed to be riveted onto the cowling. "So she says, 'Okay,' and goes over, gets the rivet squeezer, the rivets, the drills, the countersink, and just does it," he says, laughing and adding with fatherly pride, "I don't think she even has an appreciation or knowledge of how much she learned. She's in there drilling plastic or steel, and picking up the air drill or the electric drill depending on what's going on—and I just stopped work sometimes and watched her. At first, we were working very much together because I was explaining everything and how to safety, how to do the cotter key, and why. But toward the end, I could just say, 'The tail wheel needs to be installed,' and then she's over there installing the tail wheel and hooking up the springs."

The Texas Sport will continue to provide her with new learning experiences—primarily, flight training. Its panel combines the traditional round gauges for altimeter—needle, ball, and airspeed; instrument landing system (ILS) glide slope; the new Dynon FlightDEK-D 180 [full electronic flight information system (EFIS) and engine monitoring system]; and a Garmin GNS 430 with full ILS and

wide area augmentation system. Since the airplane is fully instrument flight rules capable, Rand's plan is for her to earn her private certificate in it this summer. "Probably during her senior year, she'll get her instrument ticket in it, which will be kind of fun! Basically she's a student pilot right now, and she can't even find the airspeed on the glass EFIS—which is fine by me, because I've got her looking outside and at the horizon. You can call me crazy, because she knows nothing about the instrument panel yet, but I think it's great!"

In the meantime, McKinley has her own plans for N416MS. "I just really want to enjoy it, and I'd like to enter it into some sort of judging to see what other people think of it," she says happily. "But really, I built it to please me, and to have fun with it. So that's what I want to do with it now. I want to go out and put those doors down and just have a blast with it—for the rest of my life. That's my plan!"

And it's likely that her younger brother may be asking for rides with his older sister, until the day he turns 16 and begins building his own airplane—with a little help from his family, of course. 

Sparky Barnes Sargent holds a commercial glider certificate with a private single-engine land rating, and she personally restored her 1948 Piper Vagabond. She was the first female recipient of the Bax Seat Trophy (2006). Her first book, a collection of women pilot biographies, titled *A Hunger for the Sky*, was published in 2008.

GO DIRECT



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