

The Sorge Stearman Speedmail Special

The Stearman what?

by Budd Davisson

Iwalked around the airplane three times while trying to keep the questioning look off my face.

And I know I wasn't alone. Lots of other longtime Oshkosh flight-line warriors who pride themselves on their airplane identification skills were undoubtedly stumped right along with me. What was this?

This was an intriguing airplane because it had so many identifiable features that went together in such a familiar way, yet something about it wasn't right. It said Speedmail Special on the tail, which didn't help one bit. What's a Speedmail Special? We all

know what a Speedmail is, and this isn't it. The lines were sort of Stearman or maybe Pitcairn, with the "Big Stearman" heritage like the Model 4s hard to miss. But the airplane was the wrong size. It was like someone left a Pitcairn Mailwing or a Stearman 4-CM out in the rain and it shrank. It was a handsome airplane, but what was it?

Our erstwhile leader H.G. Frautschy came to the rescue and showed great restraint by not wringing his hands

with glee because he knew something the rest of us didn't. The airplane was, according to him, what some in the hot rod or custom car field call a "phantom." It's a custom-crafted design that never existed, but easily could have. Like a '35 Ford roadster pickup that Ford never built yet many are driving around, the Sorge family's Speedmail Special was an airplane that Stearman could have built, but didn't. Steve Sorge, however, did.

Before we get any deeper into this,





BONNIE KRATZ

let's hit head-on what may be sore points for some folks: technically, this is a homebuilt airplane that at its heart is a Stearman PT-17. A few folks are going to decry what they see as the desecration of a historic airframe. Others are going to ask what a homebuilt airplane is doing in these pages. If they want answers to their questions and rebuttals to their comments, however, all they have to do is stand by the taxiway at Oshkosh or Bartlesville and see

the pleased looks on so many knowledgeable faces. This is a very cool airplane and represents something many of us wished we had done but didn't. The purists have their choice of hundreds of look-alike PT-17/N2S Kaydets. The rest of us can smile and wish we had the talent and imagination to build an airplane like Steve's Stearman Speedmail Special so we could mess with people's heads, too.

Incidentally, Steve says, "I expected to get some grief from a few folks, but

so far not one person has openly criticized me. I guess a lot of us agree that the world doesn't really need another impeccable PT-17."

Steve was born in, of all places, Hales Corners, Wisconsin. For that reason alone, there was no possible way he could avoid being involved in some off-center parts of aviation. Raised in the shadow of the EAA's birthplace he even took piano lessons from Paul Poberezny's next-door neighbor.



BONNIE KRATZ

"I was your typical kid in that I spent a lot of time trying to hurt myself on minibikes and motorcycles," Steve remembers. "However, at the age of 12, I did try to build a Rogallo wing with Visqueen covering, but was never successful with it."

Graduating from the Milwaukee School of Engineering (MSOE) with a degree in mechanical design, Steve moved to another hotbed of aviation activity.

"My first job took me to Cedar Rapids, Iowa, right next door to Blakesburg, so I went from the homebuilding capital to the antique capital of the U.S."

He was never far from unusual airplanes, but he didn't start learning to fly until he was 25 years old.

"It was during my freshman year in college that I borrowed money from my girlfriend, bought an ultralight, and started flying out of the Hartford

airport, which by the way is the same airport where I would eventually meet Jim and get my Stearman project.

"Two years later, I borrowed some more money, this time from one of my college roommates, and bought a Cessna 150. I started taking lessons out of Hunfield, now known as Guntly Memorial. The owner and A&P/IA, Tom Guntly, had an old Vagabond, and he said if I would rebuild it, I could fly it. It was also about that time that a Stearman landed for gas, and I was totally knocked over. I wanted a Stearman, and that was that. I didn't know how or when, but eventually, I knew I was going to own a Stearman."

His first vintage airplane was about as far from a Stearman as you could get—a Tri-Pacer—and he flew that airplane for quite a while before buying another classic he knew well.

"In 1985 I bought the very same

Vagabond that I had helped rebuild while I was working on my license. Still, biplanes kept pulling at me, and I bought a modified Pitts S-1C called the Sanderson Special. I flew that to Bartlesville, then took a little trip through Texas and as far west as Las Cruces, New Mexico.

"All the time I was at Bartlesville, I told anyone who would listen that I was looking for a Stearman project. I couldn't afford a flying airplane, and besides, I really wanted to do the work myself. It was during that first visit to Bartlesville that I learned about a hangar full of Stearmans in Lubbock, Texas. So, on my way to Las Cruces, I stopped off down there and looked at a bedraggled old spray plane that was parked on a duster strip with the only thing in sight for miles around being an oxidized Airstream trailer and an old Cadillac. We were definitely in the middle of nowhere.



PHOTOS BONNIE KRAITZ



Above and below: Steve included some whimsical artwork in tribute to his friend Jim Miles on each side of the fin and on the fuselage.



“It was also during that same Bartlesville fly-in that I met Hap “Leroy” Stein, from Watertown, Wisconsin. Hap had rebuilt a Navy N3N with the help of a local spray pilot, named Jim Miles. At the time, Jim had two buildings full of Stearmans in various stages of disrepair. Having heard about my desire to own a Stearman, Hap volunteered to introduce me to Jim when we returned to Wisconsin.

“Jim Miles was one of the legendary, old-time duster pilots who had gotten into ag flying right after World

War II (WWII) when there were no specialty spray planes. He had been an instructor in AT-6s at Ponca City, Oklahoma’s No. 6 British Flying Training School, and when he came out and decided to go spraying, the Stearman, or some variation of it, was all there was.

“Jim had sprayed his entire life and had amassed an amazing mess of Stearman parts and airframes. I don’t how know many he actually had, but it looked as if he had five hundred wings sitting around in various states of disrepair.

“As I was getting started in my search for a Stearman, Jim decided that he’d stop spraying and started selling off his stuff. But, that wasn’t an easy decision. Jim was really emotionally attached to his airplanes. I bought my Stearman from him a piece at a time over a two-year period, as the money became available. I’d buy the tail, then a couple of wings, and so forth. Finally, on the morning of July 4, 1992, I was driving down the highway, the deck lid off of my Chevy Cavalier and the tail of the last complete fuselage Jim had strapped down and trailing behind. It was a 50 mile ride home, and I was feeling good, but I’ll never forget the look on Jim’s face as I drove off pulling his last fuselage behind me. That must have been when I decided to somehow make this airplane a little

monument to him and his life.

Steve didn’t originally think in terms of modifying the airplane. He just knew he wanted a Stearman, although the urge to do something different must have been fluttering around the edges of his mind, because it didn’t take much to get his imagination going.

“I had just taken the fiberglass off the fuselage and removed the 19 pounds of lead from the tail post when I saw a pair of Pitcairns at Oshkosh. One of them was a PA-8, and I loved the long nose and the way the windshield said ‘speed.’ I decided to put the pilot back where the baggage compartment was in my airplane, and the entire project took off in a different direction. That’s when I realized I didn’t want to build another PT-17. I wanted something special.”

One of the two Pitcairn biplanes Sorge saw was brought to Oshkosh by Steve Pitcairn, son of the original designer/builder. Those two Pitcairns were masterpieces of the restorer’s art. They inspired a lot of people that year, but once Steve Sorge decided to go in an “old timey” direction, he kept his antenna up for design elements that contributed to the “look” he was trying to capture.

“Tom Lowe’s C3R had a lot to do with the direction I went, including the design of the rear fuselage. The tail is very much C3R right down to

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The pilot's cockpit has been moved aft of the PT-17's original location. The windshields were inspired by the rakish windcreens on the Pitcairn mail planes of the 1920s and '30s.



The forward cockpit is wide enough to accommodate a pair of skinny teenagers.



The Pratt & Whitney R-985 sits out in front of a 4-foot-diameter firewall. Coupled with the carefully faired fuselage, it lends a prewar transport biplane look to the Special, somewhat reminiscent of the Pitcairn Mailwing.

A pair of Fischer 36-inch-diameter wheels looks just right when installed at the ends of the outrigger landing gear.

the rudder cables coming out mid-height and the tail shape."

The fuselage of those old airplanes combined the pilot-in-the-rear look of a racer with a long-in-the-nose look of an early transport or mail plane.

"I used up a lot of cardboard and string trying to get the fuselage shape just right. I made the firewall 4 feet in diameter, which would look right with the R-985, and started pulling strings and cutting cardboard. I wanted an integral turtledeck and headrest and just kept trying different shapes until it looked right. All of the old airplanes contributed in terms of looks, but none of their dimensions or profiles would work exactly, because the scale and proportions were different. It was very much one of those, 'I'll know it when I see it' things."

When he was mocking up the fuselage, part of the design goal was to make the old Stearman's front cockpit accommodate two people.

"The front fuselage is the same width as it was originally, but I had to relocate some tubing. It's tight, but I can get two of my four teenagers in the front seat, although I don't think they'd be happy flying very far in it."

The multifaceted, heavily sloped rear windscreen is obviously part Pitcairn and part C3R, but the wide front windscreen, while looking familiar, isn't readily identifiable.

"While I was working on the airplane, Mike Posey was restoring a Pitcairn autogyro that had belonged to Amelia Earhart. He had pictures of Amelia standing by the airplane, and I just copied that shape and scaled it to fit my fuselage."

The dishpan section behind the engine owes its existence to a chain restaurant.

"I had seen the cowling Steve Wolfe had made out of an air duct cover for Sampson and started keeping my eyes open. I was just driving

along and noticed the vent covers on top of a Pizza Hut that turned out to be exactly what I needed.

"The duct cover was made out of 1100 series aluminum, which is pretty soft and welds great. More important, it forms well, too. This helped a lot when I hand-formed the air duct on the bottom. I made up birch form blocks and started hammering. I also made up my own louver punches.

"When I tell people how we made the dishpans, they often ask if we're looking for a duct cover I can convert to a cowling for the engine. I usually laugh and say, 'This airplane is never going to have a cowling. Never!'"

It would seem that Steve didn't want anything to hide the finely detailed R-985 that was built up by Tulsa Aeromotive. However, the brutish, engine-in-the-breeze look adds to the aura of the airplane, and a cowling would take part of that away.

The PT-17 had what was, and is, a



unique approach to a landing gear. Unless a person looks at it closely, it's easy to miss that the gear legs are rigid and the struts telescope inside them. Plus, the entire gear is a single unit, axle to axle, that bolts to the bottom of the fuselage. The gear is so identifiable that replacing it with anything would have changed the airplane's identity, but Steve wanted that area to have a certain look.

"The gear is definitely Model 4 Speedmail. Although none of the dimensions are the same, I copied it as closely as I could, including having the outriggers inclined at a 10-degree angle. I did, however, go entirely modern in the suspension system, and rather than using bungees, as the originals did, I simply found a coil-over automotive racing shock absorber that would do the trick and used that. Being automotive, I had a lot to choose from, and it gives damping going in both directions, so the gear is really nice."

Part of the "look" of those old airplanes is the way their general lines combined with the outrigger landing gear, but none of it would work if the airplanes were wearing puny little 6.00 by 6 tires. Big old airplanes need big old tires.

"Dick Fischer makes a kit that includes all the rough castings to build up the big wheels. I bought a set for the 30 by 5s, and they were all fin-

ished before I realized I should actually have gone with the larger 32 by 6s. The difference in appearance between the two is dramatic, and the airplane just wasn't going to look right with the smaller ones. The brakes are 11-inch Hays units that look and work just right."

The only visage of PT-17 styling that's identifiable is the planform of the wings, but even there minor items like detailing around the gas tank makes them different.

"The airframe I got from Jim Miles had led a pretty rough and tumble life including three unusual accidents. The first was when Jim was flying under some wires and bounced off the top of a truck. The second was when he was taking off in a ground fog and didn't see an old Buick parked at the end of the runway. Some good old boys were sleeping off the night before. Jim saw it at the last moment and again skipped off the top of it. The damage was minimal to the Stearman, the Buick, and the guys inside. Then, when they were hand-propping the airplane, it ran off on its own and hit a truck.

"There was a crewman standing on the wing loading the hopper when it happened. He wasn't hurt but the bottom right wing was torn up, so they replaced it with a metal one. I replaced that wing with a wooden one that I built up from all new material.

"Incidentally, the truck the airplane hit was owned by Joe Norris, who at the time was a cranberry grower, but is now with the EAA."

It is said that bad things happen in threes, in which case Steve Sorge should have trouble-free flying ahead of him.

There are a number of special features about the Sorge Speedmail Special besides the unique nature of the airplane. First, the fact that it's a done-at-home airplane, rather than being constructed by a hired gun, is highly unusual. Secondly, the airplane truly is a family project.

Steve says, "Everyone got in on this. I have three daughters, Kendra, Kelly, and Claire, and one son, Kory. They range from 11 to 20 years old.

When we were covering and painting the airplane, they got right in there with Tracy, my wife, and helped with the rib stitching and wet sanding. In addition, Tracy sewed the covering envelopes. The entire thing wouldn't have happened if my family hadn't been totally behind it. This kind of project takes unbelievable amounts of time, and besides jumping in to help, they understood what kind of commitment it took on my side."

Now that the airplane is done and flying, what kinds of modifications or improvements does he have in mind?

"Improvements?" he laughs. "I'm done working on it! We're going to fly its wings off and enjoy it.

"I do, however, want to say a lot of thank-yous to a lot of people. Certainly to my family, who for 15 years put up with airplane parts in every room of the house, including the shower while rinsing paint remover off the stabilizer trailing edge. Then there are those who, without their help and support, this project would have never seen the light of day, let alone a stiff breeze through the flying wires.

"Tom Guntly, who in addition to offering up his Vagabond, taught me all about restoring rag and tube aircraft. Tom Hegy, one of Jim's closest friends and contemporary spray pilot, was there to answer any questions, offer a bit of advice, and connect me to the right people, when needed. Tom was also generous enough to let me fly his Travel Air biplane around the patch nine times before I first flew my Speedmail.

"The most significant supporter of this project was Sam Taber, owner of Tabair, a restoration and maintenance facility specializing in WWII aircraft. Sam was always willing to take time out of his busy day to drive 20 miles to my hangar at the Palmyra airport to have a look at my work, lend me a hand, or lend me a tool. We went so far as to tear down my original engine for a firsthand look before we decided to have it overhauled. As is always the case with airplanes like this, it's the people who made it worthwhile." 