



First, You Finish Instrument

Duane Oosterhuis' Luscombe

BY BUDD DAVISSON

"Every project has something you key the rest to," says Duane Oosterhuis. "On the exterior of a home, for instance, it might be the color of the shingles. In my Luscombe I did the instrument panel first and built the rest of the airplane around it."

Duane has all sorts of building-project philosophies that he has developed over a lifetime of doing non-aviation projects, all of which were brought to bear on his Luscombe.

"I'll be standing by the airplane at an air show," he says, "and someone will say, 'I wish I had that kind of patience,' and I answer, 'I wish I

did, too,' because I have very little patience. I have to substitute tenacity for patience. I put my head down and grind away until the project is over, and that included the Luscombe."

Duane came to his Luscombe project by a rather circuitous route. His tale is not the usual I-built-model-airplanes-dad-had-a-Cub-I-learned-to-



the Panel



PHIL HIGH

Duane Oosterhuis

BONNIE KRATZ

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fly, etc., which is the rubber-stamp biography so many of us can lay claim to. His flight training was government sponsored, and he spent much of his service time flying Deuces, or F-102s. He had very little to no general aviation flight time by the time he got out of the South Dakota Air National Guard. He had, however, been peeking over the fence at some of the more interesting general aviation airplanes, and he eventually did something about it.

“I had been out of the Guard for eight years when I went to Oshkosh to look around, but I wound up buying a Midget Mustang,” Duane says.

Warning! It’s at this point in his story that all flight instructors and accident-prevention counselors should probably skip this next paragraph. And kids, don’t try this at home.

“I hadn’t flown in eight years, so I had the airplane delivered to me. Then, without any tailwheel time, I just crawled into it and took off. It wasn’t

the smartest thing I’ve ever done, but somehow I survived and the airplane did, too. Even though I enjoyed it, I didn’t get to fly it very much. I had gotten married and had kids, and as the years went by, I found myself feeling guilty when out flying by myself. The result was that I only put a little over a hundred hours on the airplane in the 14 years I owned it. I couldn’t enjoy flying, because I felt as if I was cheating my family, so I stopped flying altogether and concentrated on farming.”



The classic profile of the Luscombe Silvaire has captivated pilots since its introduction just prior to World War II. Duane Oosterhuis' modern take on this vintage airplane turns heads wherever he goes.



PHOTOS PHIL HIGH

These two views of the cockpit show the care that went into the fit and finish of the entire project. The seats are Tempefoam covered in Connelly leather. Duane says he started with the instrument panel's layout and rebuild, and then restored the Luscombe around it.

When he says “farming” he means “Farming” with a capital “F,” because he was working 1,500 acres of corn and soybeans in northwest Iowa, a job that isn’t for the faint of heart. It was a great rural existence, but even farming has been known to have its hidden dangers.

“I had been at it for 25 years when I started to develop what they call ‘farmer’s lung,’ a respiratory problem caused by the mixture of dust, mold, and possibly chemicals. Not everyone gets it and it creeps up on you slowly. I coughed almost continuously and was clearly in a tailspin healthwise. When

I asked my doctor what I could do, he said, ‘That depends on how long you want to live.’ He said if I kept farming, it was going to greatly shorten my life, and I didn’t like that prospect at all.”

Faced with the decision of making a change of life or dying, young Duane and his wife, Mary, evaluated options that could improve the future for the entire family. They made a move to a patch of woods in the Springfield, Missouri, area and that eventually led to an airplane project in his shop. Things worked out fine because he had worked out a deal where he sold the buildings and ma-

chinery but kept the land and leased it out on a crop-share basis. He was still buying crop inputs and selling grain, but more important, he was staying out of the dust.

“When we relocated, I didn’t know anyone in the area, but we were at one of the local picnics and I ran into an airline pilot who was ex-military like me, so we started talking. In the course of that conversation, we were talking about airplane projects and he mentioned that he knew of a couple of Luscombes that were in a hangar in Denton, Texas. And that’s what got me started.

“I tracked down the owner and

bought everything he had; there was an incredible mess of parts there. On the first inspection, I counted seven wings and two fuselages and so much other stuff I couldn't begin to catalog it until I got it all home.

"When I inventoried everything, I was surprised to see so many new old stock [NOS] parts. It, for instance, looked as if someone had just gone through a hardware catalog and bought a number of everything listed. I had several dozen of every kind of screw, bolt, and washer a Luscombe ever used. I had a couple of new landing gear legs and two brand new windshields. There was, however, only one engine, so I figure I had about 1.7 Luscombes. Someone had intended on restoring the airplanes, but they didn't get much past ordering parts."

The Luscombe is certainly one of the most popular garage-type restoration projects not only because projects are often priced right, but also because their size makes them good for one-man operations and small work spaces.

"I have a great workshop and for some reason seem to do my best work when I'm alone. The Luscombe was perfect for that. Nothing on it is heavy, and if I needed to move something like a wing, Mary could easily handle the other end. That said, I got great help from a friend, Ray Petre—hot rod builder and machinist—with some of the interior and metal work," says Duane.

The first order of business was to sort through the pile of Luscombe debris and decide which fuselage to build up and which wings were best, and generally triage his goodies.

"None of the parts were what you'd call junk. They are all pretty good, but I selected the wings that came with one of the fuselages, and they happened to be metal wings, even though you don't usually see metal wings on a '46 8A. I checked the factory records, and yes, these were the correct wings.

"Since I had a spare fuselage and I had no experience in restoring airplanes, I decided to start working on the spare first, as a learning experi-

ence, before I started on the one I was going to keep. I was glad I did that, because it takes time to get in the rhythm of a project like this. My project education included the study of lots of parts and assembly manuals plus many phone conversations with a very helpful Brandon at the Luscombe History Foundation. By the time I started on what was to be my airplane, I had learned a lot.

"I coughed almost continuously and was clearly in a tailspin healthwise. When I asked my doctor what I could do, he said, 'That depends on how long you want to live.'"

"Incidentally, when I sold the first airplane as a project that was off to a good, clean start, the buyer commented that I had under-represented it and he was happy to have found it. We stayed in touch and I was happy to learn that he had it flying long before mine."

According to the logs that came with his airplane, it hadn't flown since 1964, at which time it had 118 hours' total time. However, there are some things about the airplane the logs couldn't, or wouldn't, tell Duane.

"It was obvious the airplane had been damaged at least twice. Both times it had been well repaired, but nonetheless, it had been repaired and it wasn't in the logs. The left wing, for instance, showed where at least one skin had been replaced and spliced, and it had been on its back because the top of the

vertical fin had been crunched.

"I was concerned about corrosion, so I took the bottom wing skins off and was pleased to see the wings were fairly clean, but I put inspection panels in them anyway so I could keep an eye on things.

"Both of the wingtips, which are dead soft aluminum, had seen better days, but they were repairable. So, I made up wooden bucks and slowly ironed out the dents. My goal was to use no body filler on them, and I didn't."

One of the first things you notice when walking up to Duane's airplane is how straight all the sheet metal is, and the first assumption is that the skins on the control surfaces have been replaced, because the corrugations are all arrow-straight and perfect.

"I didn't replace any of the skins. Instead, I spent a lot of time carefully working out each little dent and kink. I know I spent a lot of time doing that, but it was a satisfying thing to do. The same thing was done on the nosebowl and cowl.

"The original cowl was all there but had its share of what was mostly handling damage from being moved from place to place after it was stored. The aluminum is fairly soft and easy to dent, but it's also fairly easy to ease back into its original shape as long as you go slow and keep after it. Just like the wingtips, I was determined to keep the original parts, so I just slowly moved through each part, straightening as I went.

"Actually, before I did anything on the fuselage, I Scotch-Brited and cleaned up everything. Then I totally finished the panel, with the exception of installing the instruments. In a Luscombe the instrument panel is an important piece of the fuselage structure. I had already decided I wanted this to be a practical piece of transportation, so I wasn't trying to re-create a factory-new Luscombe. What I wanted was an airplane that reflected the spirit and feel of the times but was thoroughly modern in its utility. And that concept was put in motion when I did the panel. I set the panel up so it 'felt' 1946, but it has everything in it I'll need in 2008."

As part of his “project philosophy,” Duane says it’s important to employ some discipline.

“One of the problems with any project, airplane or otherwise,” he says, “is that some things are naturally more fun to do than others. If we yield to that temptation, however, we wind up hopping around the project and not doing everything in the proper sequence. It

is hard, but we should work on what we ‘need’ to do to keep the project moving, not what we ‘want’ to do.”

One of the challenges of the fuselage was that although it included a number of factory-new items, like the firewall dishpan and new gear legs, they didn’t have the holes drilled for mounting, so he had to use some ingenuity and ask questions.

“The dishpan was not an intuitive assembly: I didn’t know exactly how it fit, but it had to fit perfectly or other components wouldn’t fit right either. I called the Luscombe Foundation, and a nice lady on the phone gave me a series of dimensions, and I blindly followed them as exactly as I could. It was a real act of faith that I drilled, finished, and painted the pieces without ever fitting them on the airplane, and I was almost afraid to try putting them in place. When I finally assembled everything, they fit together very nicely. That was just one of many places where the Luscombe Foundation helped me.”

Duane bought an engine, an O-200, from a gentleman who said he knew someone who could overhaul it for him at a good price and he’d set it up. Unfortunately, things didn’t go as planned.

“I sent him the engine and some of the money; then I waited and waited. Nearly two years and dozens of phone calls later, he said come and pick it up. When I got there, he was nowhere to be found and one of his workers helped me load the engine. I had been having bad feelings about the motor before this, but when he made it a point not to be there when I picked it up, I knew something was wrong. Especially since on the out-



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side of the motor I could see used bolts and multiple washers. So, what did the inside look like?

“Rather than taking the engine home, I drove it right down to Monty Barrett’s shop in Tulsa. They only had to do a little scoping to verify that what I felt was true. The engine oil tank was full of crud, and many of the parts were out of tolerances. There were even loose pieces floating around in the crankcase. It was junk. Expensive junk. The FAA impounded and disassembled the engine. They said it wouldn’t have made it around the pattern, and the builder is now serving time in a federal penitentiary. The engine was then totally rebuilt by Barret Precision Engines.”

The engine installation on Duane’s airplane is interesting not only because it is so clean, but also because there are some interesting features.

“I love making patterns, so I made all the baffles myself, tightening up the tolerances so the airflow was better. Then I got a 337 to install the oil filter jacket and blast tube off a Tomahawk. That takes cool air from the front of the engine and flows it around the filter in a jacket.

“It took another 337 to install an oil pressure switch with a panel light. Us old guys [Writer and editor’s note: He’s not old!] need those red warning lights.”

With all the mechanical stuff behind him, Duane could then turn his attention to the cosmetics for the paint and interior.

“The idea was to keep the feel of the 1940s but to substantially upgrade both the quality and comfort of the interior. Connelly leather over Temperfoam on redesigned seat frames took the interior in that direc-

tion. I wanted us to be able to sit in there for any number of hours and be comfortable for all of it. And that’s exactly the way it worked out.”

Parts were prepped and primed with DuPont Variprime by Duane in his shop at home. Then Ozark Body Works, which is owned by a friend, Mark Walansky, finished painting the parts in a piecemeal fashion as they became available. Duane designed the overall paint scheme and helped them lay it out prior to application of the PPG Deltron 2000 DBC paint.

The project was started in 2000, and it flew for the first time in December of 2005. Normally, that would be five years, but the airplane sat nearly complete for an entire year before the wings were finally attached.

“When I got it ready to fly, I felt like it was time to step back and catch up on life. I had neglected a few things around the place, plus my daughter was planning a wedding on our front lawn. In fact, we had the reception in my workshop, with the Luscombe fuselage as part of the decorations.”

When Duane did get the airplane flying, he flew it and flew it and then flew it some more. There hasn’t been a fly-in within reasonable flying distance that he hasn’t taken it to, and where the airplane was judged, it always did well. His trophies and plaques range from the Grand Champion Neo Classic at the AAA Fly-In at Blakesburg ’07 to Outstanding Custom Classic (81-150 hp) at EAA Air-Venture Oshkosh to Grand Champion at the Mattoon, Illinois, Luscombe Fly-In (and People’s Choice, too).

“I didn’t build it to show. I built it for the fun of the project and for the pure joy of flying a historic yet reliable and economical airplane.”

It’s difficult to know how many people appreciate his effort, but it’s easy to see how many people like the airplane by observing those who gravitate toward it. They may not know what it took to get it in that condition, but they definitely know what they like when they see it. 