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“COVERING” FABRIC

PART TWO

A chat with two fabric experts.

By Kevin Garrison



Our last article about aircraft fabric and re-covering projects covered some of the history, basics of the art, and a few recommendations for training. This month we chat with two fabric covering experts, David Bishop, owner of Bishop Air Services in Indiana, and Steve Pierce, owner of Pierce Aero in Graham, Texas.

Re-covering or building an airplane

using fabric is something an amateur can do on their own with basic tools in a basic shop. My airplane and I are proof of that. When should you go to (and trust) professionals like David and Steve to do your fabric project?

Like most things in life, the answer to that question lies somewhere between time and money, with a little bit of your tolerance for doing hundreds of hours of painstaking work blended in.

If you are like me and enjoy flying an airplane more than building one,

you might consider hiring a professional to do the job.

David and Steve are experts in their field. They and their families have been in the business of covering aircraft for a long time.

Let's get to know David and Steve!

Cessna Flyer (CF): What is your background in this business? What got you started?

David: I was basically born into it. It was a family business that took the place



Bishop Air Service

of football, baseball, and everything else after school. I rode my bike to the airport, and we worked on airplanes. It was a daily deal.

I did the line crew work too, and they put me to work doing whatever they needed me to do. Next thing you know, I went from being the line guy and pumping gas to helping turn wrenches in the shop. The more I learned, the more they put me to work.

There was an air charter company there, Rhodes Aviation, and I was able to

get my certificates through them. I built up a lot of time working on different airplanes like [Douglas] DC-3s and all kinds of cargo planes.

My Dad always had something like a [Nord] Stampe, a [deHavilland] Tiger Moth, or a Pitts on the field. We ran an agricultural spraying operation, so during the summer months we'd dust crops and during the winter we'd rebuild planes. And when spray season came around again, we'd go back to the spraying for a few months. We usually

always had an ag plane in the shop being restored and another aircraft to work on for fun.

Steve: Well, I've been doing this work for about 30 years. I did my first covering when I started working at a warbird restoration shop, Ezell Aviation, in Breckenridge, Texas. We did a little bit of fabric work there. Nelson Ezell's oldest son and I bought a [Piper] PA-16 Clipper that we had to travel to Sun Valley, Idaho, to take apart. Neither one of us had a pilot's certificate.



Bishop Air Service

We brought it back, and we dabbled in butyrate dope and painting to restore it. Later, I started my own business in Graham, Texas, which was 30 miles away, and I would fly back and forth when I could.

CF: What fabric covering process do you use most often on projects today?

Steve: We mainly use the AirTech process. We used Poly-Fiber quite a bit in the past, but when two of the reps retired (Jim, and Donny Miller), a lot of the support was gone. Soon after, I met Robby Staten from AirTech and liked his process. I can call him any time of the day or night, and he'll answer the phone. He's a ton of help when you need it.

We've become buddies in the business, and I really liked their product, so we made the change. Both products, in my opinion, are equally good. I just like the customer service that you get with AirTech.

Most people have good intentions, and then 10 years later, their airplane is still sitting unfinished in the garage or basement... I personally think, if you can afford it, just send it to a professional shop. Get it done and get it in the air.

AirTech is user-friendly, and a couple of steps are cut out of the process because of their primer. The process goes from primer right into topcoats, which saves a lot of time. You get all your UV and other protection in one operation instead of doing all the various coats of silver like you do with Poly-Fiber.

David: My preference is Poly-Fiber. Poly-Fiber and AirTech have positive features, and all have negative qualities, too. It would be great if you could take the attributes of all of them and incorporate that into one system, but it's not feasible. We have done enough Poly-Fiber that if something goes south, we know how to fix it or at least realize what we did wrong.

If I mess up some paint, it can cost me money because it will require lots of time to fix. If it takes me two hours to paint, it'll take me four hours to repair and repaint it. With the Poly-Fiber process, we've figured out some tricks that aren't

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in the manual, and we do some things a little bit differently than a do-it-yourself coverer because we've done it for so long.

CF: Manufacturers of new aircraft, like Maule and Aviat, still use the Ceconite process, which some say is getting old and is out of date. Is that just because that's what they've always used, or is there an advantage for a manufacturer to still be using Ceconite?

David: Those manufacturers have an FAA production certificate, and they laid out in their production certificate all the qualities, steps, and procedures of that process. Once they established their certificate, changing to another process would be difficult and expensive. Plus, their workers are very well-versed in their production methods. It would take unnecessary time and money to retrain them.

Because they have a production certificate, American Champion, Aviat,

David, Steve, or others that run fabric repair and re-cover shops might be the right resource for you if you do not want to devote hundreds of hours of work to do it yourself.

Maule, and CubCrafters do not follow the Ceconite STC, which leads repair and rebuild shops like ours swinging in the breeze a little. It's frustrating for us in the field because they don't publish the

process they use. If they published their process in a repair procedure, we could use it as approved data, but since they don't, we are left with a problem.

CF: What advantages are there to using a professional shop instead of doing it yourself?

Steve: Almost every day, I get calls from someone who says, "I've had this airplane re-cover project in my garage for 10 years, and I'm not getting any younger. I kept thinking I was going to do it and fly it. Now, I just want to get it done."

Most people can do this kind of work. It's not impossible, but aircraft owners must be honest with themselves. Sometimes you just say, "Look, will I be able to go from concept to flying with my current workload and my family obligations?" Most people have good intentions, and then 10 years later, their airplane is still sitting unfinished in the garage or basement.



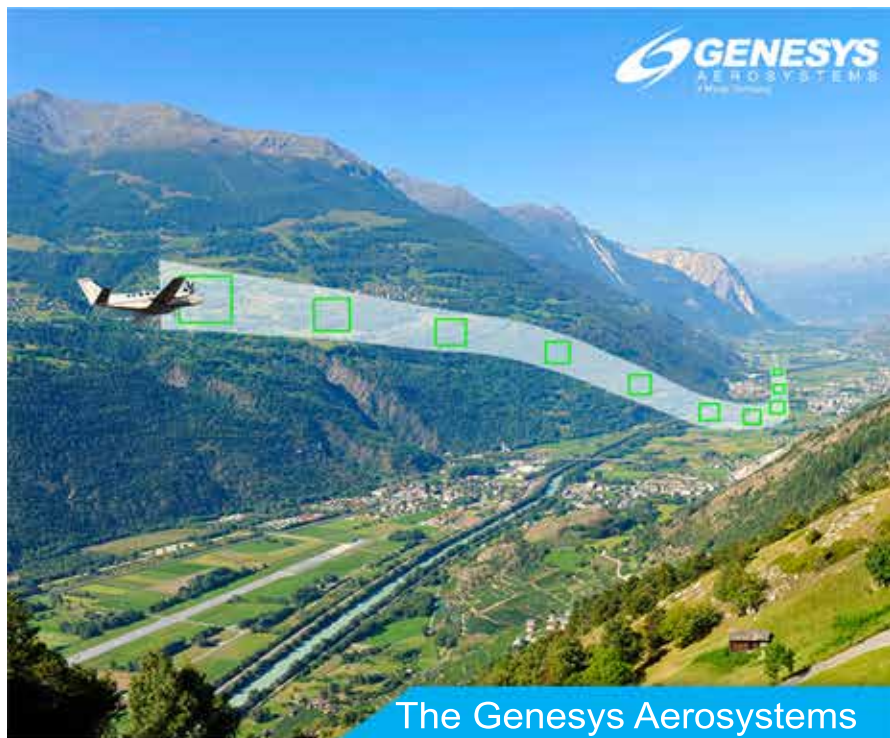
If a man or woman has a profession and a way to make money and is doing OK, many of them are relieved when they finally just say “the heck with it” and send it somewhere to complete it.

I personally think, if you can afford it, just send it to a professional shop. Get it done and get it in the air.

CF: What should potential buyers of fabric aircraft look for during a pre-buy inspection?

Steve: I would ensure that all the paperwork for the fabric is done correctly. I want to ensure the fabric work is properly done according to the STC.

Another critical step is to get up in the inspection holes with a flashlight and just check all the stitching to see if it looks like there have been mice in there. If you see evidence of a mouse anywhere in any part of the aircraft, you can bet mice will have been in more places than just the one you are looking at.



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Rodents are probably the biggest enemies of fabric-covered aircraft. What they don't chew up, they urinate on, causing rot and rust on the interior metal and inside surfaces like wings and stabilizers.

There is something about the wax cord used in rib stitching that mice find very appetizing. We had a plane in the shop a few months ago, and the wings looked great. They looked like you could wash the aircraft and go fly. But after popping some inspection plates off, every single rip stitch cord had been snapped in half by a mouse.

CF: What repairs can a pilot do in the field, and with what material?

Both David and Steve agree that if you find yourself away from your home airport with a small rip or hole in your airplane's fabric, you can do a temporary repair using a little duct tape. David always has a roll of tape stashed in his Piper Super Cub.

When you find damage in the fabric that is too big to be repaired with a small duct-tape patch, you should ask a mechanic to give it a look. This mechanic does not have to be at the airport looking directly at your bird to come up with an opinion. Sometimes a cell phone picture will be enough to assess the damage and devise a plan.

Once you and your airplane are home, a cloth patch repair can be done on smaller fabric holes and tears. Significant damage to fabric might require the entire surface to be re-covered, but that is rare.



David, Steve, or others that run fabric repair and re-cover shops might be the right resource for you if you do not want to devote hundreds of hours of work to do it yourself.

Professionals in this field are hard to find and, once found, are not cheap, but having a quality job done on your aircraft can raise its value while keeping you and your family safe for thousands of flight hours and years of ownership.

KEVIN GARRISON'S aviation career began at age 15 as a lineboy in Lakeland, Florida. He came up through General Aviation, retired as a 767 captain in 2006, and retired from instructing airline pilots in 2017. Garrison's professional writing career has spanned three decades. Send questions or comments to editor@cessnaflyer.org.

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