

# INTERIOR RENOVATIONS - PT. 1

by Dennis Wolter, Founder & Owner, AirMod Inc.

## Old Airplanes, New Challenges

With the cancellation of this year's convention, Bob Thomason and I discussed the possibility of having scheduled speakers present their programs to the members in the form of articles in the magazine. By doing so, we believe this may help fill the void created by the cancellation of the 2020 convention, as well as benefit both current and future association members in some valuable ways.

Before diving into the topic at hand, I think I should introduce you to Air Mod. Founded in 1973, Air Mod has grown to

a company of ten team members who are dedicated to executing the highest quality, thorough aircraft renovations possible. As founder and manager of the company, I have a bachelor's degree in industrial design from the University of Cincinnati. I am a licensed A&P and IA. I learned to fly in the early 1960s, and I hold a private license with an instrument rating with 3200+ hours in my logbook.

My company is fortunate to have a dedicated long-term staff, some of whom have been with us for 30 years. We specialize in ergonomic custom interiors, enhanced passenger restraints, ventilation modifications, windshield and glass installations, custom instrument panels, auxiliary fuel system installations, soundproofing, and most importantly, mitigation of aging aircraft issues, particularly cabin area corrosion.

All of the technicians who work on the airplanes have been through, or are currently enrolled in, the airframe and powerplant program at a local technical college. Air Mod was chosen by AOPA to renovate the interiors of five of their sweepstakes airplanes and by EAA to renovate the interiors of more than ten of their sweepstakes airplanes. I can truthfully speak for our great staff when I say that we all share a deep passion for these airplanes and the work we are

privileged to do to them.

Now that you know a little about us, I think it's time to get back to some benefits I see in writing these articles.

**First:** Technical information presented in articles can enhance the purchase and ownership experience by helping owners understand the many challenges of owning a 40 or 50-year-old airplane. Knowing what is hidden behind interior panels and under floors equates to better maintenance decisions, protection of your investment, and safer and more enjoyable airplanes.

**Second:** Technical articles archived by a type club become permanent records that provide needed technical guidance on maintaining old airframes. Think about what is contained in the maintenance manuals written 40 or 50 years ago when these airplanes were new. These manuals lack the information needed to address the aging airplane issues we deal with today.

**Third:** Asking speakers to submit written articles that cover their postponed convention topics may motivate these technicians to write additional articles. For some, writing an article can be an intimidating challenge; it certainly was for me. Fortunately, I married a lovely and patient gal who, years ago, actually paid attention in English class. So, I write down my thoughts, throw in a few photos, and my chief editor turns my not-so-great writing into a document that is actually understandable. (Thank you, Cynthia). So, I guess I'm challenging my fellow maintenance technicians to start writing. You'll be surprised at how easy it can be to get the hang of it.



Dennis Wolter, founder and owner of Air Mod, recently received the 2020 FAA Maintenance Technician of the Year Award.



Producing an award-winning Twin Cessna interior like this one in Philip Preston's 310L takes lots of upfront prep work to do properly.

(continued on page 16)



Factory support for our legacy airframes is eroding. Older and knowledgeable technicians are retiring or have passed away, taking a very valuable information base with them to the great beyond. Years ago, a truly knowledgeable and generous Beechcraft expert and author named Norm Colvin once told me something that really resonated with me: "It's not what you did on this Earth but what you are able to leave behind that really counts." We all need to do what it takes to maintain and preserve these airplanes.

Back in 1973 when I started Air Mod, I was able to complete a new six-place interior in two weeks with the help of one employee and some long days. This would have included all new cabin insulation, new foam, upholstered seats, side panels, headliner, new carpet, painting of cabin trim components and usually a not very long list of add-ons.

Fast forward to today with ten employees working on four to five 40+ year-old airplanes in the hangar at any one time. It takes six to eight weeks or longer to complete a four or six-place interior renovation. As these articles will show, the reasons for the significant difference in time required are due to aging airplane issues. Think of it, with the cabin stripped out and floorboards removed, we get to see cabin systems and structure in a way they haven't been seen since the airplane rolled down the assembly line. All of the many things that are not seen during normal maintenance events are now open in plain view. This can be a real reality check.

I have included a few photos (see page 20) of some fairly typical problems we uncover as we go through the process of renovating the interior of a 40 or 50-year-old Cessna twin. Of the many issues we must deal with while doing this work, corrosion is definitely one of the biggest. The days of simply recovering seats and side panels, installing a new headliner and carpet in a 40+ year-old airplane are long past.

Other than the big issue of corrosion, factor in old soft ducting, sketchy wiring, old fluid hoses, rusted cables, leaking windows, lots of dirt, and

critter infestation. These things take the work scope well beyond just doing a new interior. All this talk about old stuff points to how important I believe it is for any shop doing this kind of work to have a full-time licensed A&P technician on staff to evaluate and mitigate all of the issues.

Now it's reality check time. There is no way to predict how long it will take or how much it will cost to execute a thorough renovation project in an older airplane. With that said, it is important to keep an owner informed as to what is found during the initial tear down, as well as to provide weekly progress reports complete with photographs. An informed customer is a happy customer.

I would like to close out this introductory article with some important rules to follow when putting together a good renovation plan.

1. Join your type club. The technical support and communal activities are invaluable to the owner of a legacy airplane.
2. Get a very thorough pre-purchase inspection from a qualified technician sourced through a type club. Don't buy a dog.
3. Fly the airplane for at least a year and build a well-researched and sequenced renovation plan for your new old airplane.
4. Definitely visit any shop before committing your project to their organization.
5. Before agreeing to having a shop perform a major modification to your airplane, ask to see the required FAA paperwork to verify that the mod in question is approved for the make, model, and serial number of your aircraft. (We have seen some sketchy things in 47

years in business.)

The time to save these old airplanes is now. The industry is not producing enough new airplanes to replace our aging fleet. So, stay tuned and we will provide tips, tools, and information to help save your airplane for the next generation of pilots. Here's the good news: a lot of the work required to address these critical issues can be legally performed by an owner under a provision in the FARs, part 43 appendix A (c). I would advise the supervision of your A&P mechanic. More on this as we go along. Until next month, fly safe!



**See page 20 for photos of interior issues found while prepping for a new interior installation.**

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# WHAT'S UNDER YOUR INTERIOR?

See the article beginning on page 14.



Left: Typical accumulation of 40 to 50-year-old dirt.



Left: Moisture and dirt induced corrosion.



Left: Using compressed air and soapy water to identify leaking windows.



Left: Badly deteriorated heat hose.



Right: Heat deformed and cracked cabin window frame.



Right: Unusable bent, torn and corroded thin aluminum cabin side panels.



Right: Loose screws left in a voltage control unit. No wonder the owner was having intermittent charging problems on the right engine.



Right: Badly worn and weak pilot seat back mounting hole.