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Model Building... Why It Is So Important

by Tom Biller

Model aircraft building used to be a very common activity when I was young in the late '70s early '80s. My school actually had a model-building club that met during vacation times when kids were out of school (much to our parents' delight).

I got my start when I was 8 years old. My dad got me a B-29 Super Fortress for Christmas. Looking back, this probably wasn't the best kit for a beginner, so the task loomed large with a box of what seemed like a thousand pieces and a book of instructions that reminded me of a Sears catalog.

Needless to say, after being locked in my hangar (room) for about 4 hours one rainy Saturday, I emerged with a pile of glue somewhat resembling an airplane. Although it was a wreck and not even close to airworthy, I learned something... airplanes are pretty cool. Of course, like most any kid, I immediately thought of how cool it would be to fly. But as time went on and I got better at model building, I began to notice the details of how the parts went together and what the parts were used for. In a sense, I was teaching myself aircraft assembly, the reasons aircraft can fly, and more importantly, how they can land.

As I continued my newfound hobby, I sought out kits with more parts to get more realistic detail. I loved putting together the detailed parts like landing gear and especially the ones where you could move the wings (F-14 Tomcat). I started seeing how airplanes were put together and even what to call the major sections and parts. If you think about it, I was working with the manufacturer's manual (instructions), which was full of exploded view detail drawings.

I had to learn to follow these instructions to a "T" to make



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sure everything fit right and was installed in the right order (nothing worse than realizing your cockpit section had to have a piece installed BEFORE you finished the final assembly). I also realized there were proper tools for every job (i.e. an exacto knife for when you have to trim the excess plastic off the parts you remove from the holders, and sandpaper to smooth any rough areas before you can try and fit it to the airplane).

Don't even get me started on painting! My early attempts with the old glass jar enamel paints never seemed to turn out very well, and the models definitely did not look like the picture.

I had to learn about airbrush kits and taping off the other areas before painting, so I eventually got to the point of at least making the airplanes look respectable. I never did get the knack for the really small decals that come with the kit that add some amazing detail to the final product.

There were always so many things you had to think about as the chief aircraft engineer and the variety of aircraft seemed endless. Do I stick with the new sleek fighter jets, or do I go with a vintage World War II model? Do I keep the canopy open or closed; do I fold the gear up and mount it on a stand, or do I leave the gear down and hang it from the ceiling? So many decisions!

Another thing you learn is that not all models are created equal out of the box.

Some models literally had pieces that would not fit together unless you made some modifications. So I was also involved with getting a 337-modification approval right off the bat! Luckily, I was the final approval authority, so my modifications were always approved and worked most of the time.

One consistent problem I noticed from aircraft to aircraft was the difficulty in getting the wings to stay together, as there never seemed to be enough glue points to keep them from bowing apart. I had to employ some advanced engineering techniques to get my wings airworthy and still look good, so I used rubber bands!! This simple technique fixed almost all of my design problems in this area, and allowed me to focus on other areas as my lay-ups were drying and bonding.

I can remember always getting different model kits for

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birthdays and Christmas, and unknowing people (like my cousins) would give me car models, or even a boat one time. Needless to say, these models collected dust and were never built for I was completely devoted to airplanes. I only wanted to build aircraft and found other kits to be way too easy or even just plain boring.

I did build a very complicated motorcycle once, but it still didn't do it for me. I almost exclusively went for military fighter-style aircraft and built many versions of them over the years. I quickly started to have favorites, like the F-4 Phantom, which was our nation's main fighter when I was a kid. I also adored (and still do) all of the World War II vintage models.

Coincidentally, the F-4U Corsair is my favorite aircraft. Of course, as time went on and I got older, there simply wasn't time for such an intensive hobby anymore. Things like sports, girls, and jobs kind of got in the way of my engineering.

I always had a model in the design phase all through high school, the difference now being that it could take anywhere from 6 months to a year to actually finish it, if I ever finished it. I still maintained my love for airplanes, though, and ended up joining the U.S. Air Force right after graduation.

Of course, I chose aircraft maintenance – avionics to be specific. And wouldn't you know it, guess which aircraft I got to learn on? The F-4 Phantom! I absolutely loved that plane from a very young age, and here I was standing next to and on top of it. I never did get back to model building, though, as life does what life does and all manner of people and activities were always there to fill my time. I figured there would always be time to get back into it.

So here I am years later and feeling that old twitch to build again. One thing I like about the hobby is you are never too old or too young to do it. They make kits for all levels of ability to include very basic snap together models where no messy glue is required, to very expensive kits that are super detailed and require a lot of patience and skill to assemble and make them look authentic, as far as decals and paint schemes go. I was sad to see that they don't sell these kits at Walmart anymore, so you have to go to a hobby shop or order them online. Maybe for 2016, we can bring back the idea of model airplane building!

Pick up a model and build it, or better yet, start a club near you where you can build with others. After all, two engineers

are always better than one. I think you will find it to be an enjoyable activity, as well as an exercise in patience. Pick one up for a young engineer in your life...a project that can be done together or even in a small group. Watch these kids really get into the building process and how they can accomplish a fairly difficult task once they get the basics down. Model building should never go out of style as it taps into the basic desire to build and explore different concepts while creating something you can eventually call your own. What kid wouldn't love the chance to engineer a new airplane from scratch and put the finishing touches on to show off their craftsmanship?

Now that I think of it, I don't have a single model left. With frequent moves (military brat), giving them away, and some of our neighborhood demolition activities, not a single aircraft remains. It's too bad, as I would love to look at them now to see how my skills progressed and the many varieties of planes I built.

There was one airplane I always wanted to build, but never got around to it for whatever reason...the P-51 Mustang. I think it's high time to get started on that one and perhaps re-launch a great hobby that taught me so much about aviation. I even thought it would be cool to build a collection of every aircraft I've worked on to display somewhere in the house with the wife's approval of course. Today, there are endless suppliers. Revell is the one that immediately comes to mind as a major source of almost any airplane you can think of. I imagine there are much better tools and kits available today as well.

There are even balsa wood models where you can actually cut your own pieces and put them altogether for a more hands-on approach. You can outfit them with working flight surfaces and even small engines, so you can fly them when you are done building. So next time you're at the toy store or one of the hobby shops, pick up a model airplane and give it to the young engineer in your life. Don't just leave it there... challenge that engineer to actually put it together and do a good job. Show interest, or better yet, actively help and offer advice during the building process. Who knows, that little engineer may be flying that plane or fixing it for real someday.

EDITOR'S NOTE: Tom Biller is an avionics instructor at Northland Community and Technical College in Thief River Falls, Minnesota. He can be reached at 1-800-959-6282 (www.northlandaerospace.com).

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