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Message From Headquarters

Joe Norris, EAA Staff

We have recently received large envelopes from a few Technical Counselors that contained several years’ worth of project visits and other activity reports. While the old saying “better late than never” comes to mind, we *really* need you to be more prompt with your reporting. It’s very important that you report your activities in a timely manner. Not only does that give us here at EAA HQ a better handle on what’s going on in the field and who’s building what, but it also gives us important activity data that can be relayed to the FAA.

Yes, the FAA does keep track of what’s going on in the world of EAA Technical Counselors and Flight Advisors. The agency has great respect for our programs, and they recognize the impact the programs have on flight safety. They need to see that builders

are participating, and the only way we can demonstrate that is to have current and accurate activity data. So please submit your activity reports in a timely manner.

And speaking of participation, remember that this newsletter is YOUR newsletter. We need you all to submit articles for publication so we can share your knowledge and experience. We need articles that are suitable for publication in this newsletter, so don’t write a book, but please do consider contributing a tip, suggestion, or other info you feel would be of value to your fellow Technical Counselors and Flight Advisors. You don’t have to worry about “fit and finish”. Just get us the info you want to share and we’ll make sure it gets in the newsletter. We look forward to hearing from ALL of you!

TC/FA Program Renewal

Jennifer Bork, EAA Staff

2007 is a renewal year for the Technical Counselor and Flight Advisor programs. In the next few weeks you will be receiving an informational letter in the mail regarding your volunteer efforts for the past two years. Please look over the data-sheet and update, if necessary, and return it to us by December 31, 2007. Part of the requirements of EAA’s Safety Programs is to have 6 activity

points within a two year period. These points are accrued by way of many different activities and we can only count those activities that you inform us about. Exceptions will be made for those TC/FA that are new to the program. Thank you for sharing your expertise with aircraft builders. We look forward to having you remain a part of our valuable program.

How Many Technical Counselor Visits are Enough

Dick Koehler TC#3023

I get a lot of calls as a Technical Counselor (TC) asking when I should come to look at a particular building project. My simple answer is, "Whenever you like!" This may sound flippant, but it is really up to the builder as to when, and if, we TCs are used, so it is incumbent on us to have a demeanor/attitude with the builders that encourages them to call on us at appropriate times.

Back in the old days when I built my first homebuilt, the FAA Inspector did the visits. I had to send a formal letter to the local Flight Standards District Office before I started building, and I had to meet with an Inspector to establish an inspection program. The general rule was that no area could be "closed-out" until the FAA Inspector had checked it. The first step in my project was to build the box spars for the wing, and I actually took them to the Inspector for review prior to putting the close-out web in place. He also wanted to see sample glue joints, and he actually broke some joints to confirm that I was mixing the material correctly. The second inspection was a "pre-cover" review of the entire load bearing structure. In this case he came to my house. The final inspection was prior to flight for the issuance of the limited Airworthiness Certificate.

The classic old three inspections based on close-out criteria are a good guide for today, but often do not apply directly to composite kits and some all-metal aircraft. Spar close-outs are almost a thing of the past, with the pre-molded or pre-riveted ones that are common to most fast-build kits today.

So, when should you first meet with a builder? Ideally, it will be prior to the builder ordering the plans or kit. Try to get the builder to talk honestly about his/her abilities, time, and resources to complete the project. Should he do a SportAir Workshop to hone his skills? Encourage the prospective builder to discuss the project with another builder of a similar project. If nothing else, there are numerous sources of builder opinions on various internet sites. Also, encourage the prospective builder to talk to at least one other TC. We all have different personalities, and a builder might find that they get along better with one or another of us. Builders need to trust their TC and be willing to be open about problems and issues in the building process.

The best time to actually have the first TC visit is usually after the builder has done some representative work. One (small) representative part should be built and reviewed with the TC. I suggest they do an inexpensive part first, like an elevator, because the builder may find that they want to do it again as they gain more experience and exper-

tise. I read somewhere that RV builders usually start with the tail kit, and after building the rest of the plane, 50% build another tail kit because their riveting has gotten so much better than the original tail, although good enough, is not up to their latest standards. If the builder is doing a wet lay-up composite, again, the first visit should be after doing a small part, like the horizontal tail or canard. If the builder is assembling a pre-molded composite kit, then it gets a little tougher picking an "inexpensive" part to practice on. Another option is to encourage building something that uses similar techniques, but is not part of the plane. Rutan used to suggest building a set of bookends!

During this first visit, ideally the builder will be open and honest about their workmanship and any problems they had. You also need to be as open and honest as you can while still being supportive and encouraging of the effort expended. You cannot be critical or demeaning, but on the other hand you cannot silver-coat everything either. I rate the work using the following non-negative scale: 1) This is perfect, 2) This is acceptable, and 3) You may want to consider redoing this. Most builders want an honest appraisal of their work, but if they feel they were criticized or in any way demeaned, particularly publicly, they may never call you back. I try to have the meeting one-on-one, only, and never discuss any problems found with anyone else. If the spouse appears, I praise the builder's work, no matter what. If there really are issues, I try to offer alternatives and discuss the consequences of not correcting the discrepancy. For example, if Teflon tape was used on the fuel system, explain the issues with its use, both pro and con, and let the builder decide whether to use it or not. We do not "down" or "ground" planes. Always keep in mind that we are only counselors, and we need to be tactful.

I cannot overemphasize this issue of tact and sensitivity for the builder's feelings. Several years ago we had a chapter member bring some of his welding to a chapter meeting. The welding was not the greatest, and a couple of chapter members loudly criticized the builder for "dangerous" work. The builder was embarrassed and never came back for another chapter meeting or called for a TC visit. He did finish the plane anyway, and on its third flight it crashed, due to jammed engine controls, not the welding. I am haunted by the thought that a TC visit could have avoided that calamity, but the builder was turned-off to help by the bad experience at the chapter meeting. By the way, the crash led to headlines in the local paper about "unsafe" little airplanes and proposed banning them from the local airport! (continued on page 3)

FA Gauthier receives Spirit of Flight Honor

Joe Gauthier, a TC/FA, member of the EAA Homebuilt Aircraft Council and a longtime homebuilder, received the Spirit of Flight Award at the Homebuilders Dinner at the Nature Center during AirVenture 2007. The award is sponsored by the Society of Experimental Test Pilots and is presented to the EAA member who best exemplifies the spirit of research, development, or flight-testing.

Gauthier more than fits the bill. An active EAA Technical Counselor since 1977, he is certified as an FAA Aviation Safety Counselor, an EAA Flight Advisor, and a NAFI Master Instructor. As southern New England's leading Flight Advisor, Gauthier has made the maiden flights of more than 30 homebuilt aircraft. He speaks regularly at chapter meetings throughout the area, as well as at forums during EAA AirVenture Oshkosh.

Gauthier and his wife, Carol, live in Cromwell, Connecticut, with their two daughters. "My wife has been extraordinarily supportive, and I owe much of what I do to that support," Gauthier said. "Our daughters always said, 'Don't ask Dad what time it is, he will tell you how the watch works.' Machines always intrigued me, and the airplane is the ultimate machine."

After discovering the world of homebuilt aircraft in 1968, Gauthier sold his street rod to pay for flying lessons and has been influencing aviation enthusiasts ever since. "I simply do the best job possible preparing for every flight, establish parameters for that flight, and stay within the limits prescribed during the flight," Gauthier said. "I have enjoyed the success achieved by taking one step at a time and always looking ahead to the next sequence for planning purposes."

Gauthier, a former member of the U.S. Air Force, spent 33 years with Southern New England Telephone and is now providing tailwheel and instrument flight instruction and leading two group aircraft construction projects.

Gauthier has received an impressive array of awards such as the EAA Chapter 166 Outstanding Contribution to Sport Aviation in 1984; EAA Major Achievement Award in 1987; EAA President's Award in 1991; Chapter 166's Aircraft Completion Award in 1973, 1974, 1980, and 1995; Aviation Safety Counselor of the Year (New England region) in 1999; Certificated Flight Instructor of the Year (New England region) in 2002; EAA Tony Bingelis Award in 2003; and Aero Club of New England Connecticut State awarded in 2005.

Appointed to the EAA Homebuilt Aircraft Council in 2002, Gauthier has constructed two BD-4 homebuilts, a Davis DA-2A, a Lancair 235, and a Thorp T-18. He restored a 1946 Taylorcraft and a 1948 Cessna 140, and assisted in numerous other homebuilt projects both in the mechanical and flight instruction areas.



How Many TC Visits (cont.)

I recommend the second visit, which was historically the pre-cover visit, be a review of systems installation on pre-molded, metal, or fast-build kit projects. Are the hydraulics, wiring, and fuel systems installed correctly? Does the gear retract? Is the engine hung and are things coming to and leading away from it working out? Do the controls all work correctly with no binding? There could be several visits for these systems reviews.

The last visit, which traditionally is a pre-flight, pre-FAA inspection, is usually the equivalent of a Condition Inspection without a compression check or parts disassembly. I try to look at every part, system, and component. Is everything hooked-up correctly? Does everything work correctly?

Is everything labeled correctly? Are there any leaks? Would I fly in it? This visit serves two purposes. First and foremost is to help the builder ensure that the airplane will be safe, but also, to help the builder get past the FAA inspection as smoothly as possible. You should know what the Inspectors are looking for. If not, call them up and find out what their pet rocks are. It is usually easier to comply rather than fight. Forewarned is forearmed.

Again, additional visits are at the builder's discretion and convenience. I also encourage e-mail questions and phone calls, which usually outnumber actual visits about ten to one. Remember, we TCs are here to serve.



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Fabric Inspection Items for New Aircraft

Ron Alexander, Poly-Fiber

- All surfaces should be properly prepared using epoxy primers and epoxy varnishes
- The proper fabric cement should have been used to ensure adequate adhesion
- 2 inch overlap of fabric when cementing on leading edge
- 1 inch overlap other areas
- Proper tautness of fabric – if too loose the coatings will crack; too tight can cause structural problems
- Be sure the fabric has been mechanically attached to ribs, etc. with rib lacing, pop rivets, screws, etc. Attachment using fabric cement is not adequate
- Proper taping – all seams (sewn or cemented) must be covered with finishing tape – all sharp edges, ribs, rib lacing, etc. must have finishing tapes
- Leading edges should have finishing tapes
- Be sure tapes are cemented down properly
- Be sure drain grommets are in place with fabric patches covering them
- Inspection plates should be located in proper areas with fabric patches covering them
- Ensure proper adhesion of the coatings to the fabric
- Ensure an adequate amount of silver coatings has been applied – if not, fabric will deteriorate rapidly

