



# EAA 202 Newsletter

July 2003

To invent an airplane is nothing. To build one is something. To fly is everything.

— Otto Lilienthal

Keep thy airspeed up, less the earth come from below and smite thee.

William Kershner

When a prang seems inevitable, endeavor to strike the softest, cheapest object in the vicinity, as slowly and gently as possible.

Advice given to RAF pilots during W.W.II.

## Next Chapter meeting is July 19.

As always I ask for input on the newsletter and wait, and wait and wait until another EAA member reminds me I am the newsletter editor followed by "where is it?" Sure would be nice for some help. Send your info on trips, flights, status of projects, etc to me at [whiteva@aol.com](mailto:whiteva@aol.com)

## World Aerobatic Championship

Your editor has just returned from eight days of being submersed in airplanes flying known, unknown and free sequences of aerobatics at the world contest in Lakeland Fl. I wish I could say the US was first in all events but that is not true. The Ruskies managed to finish on top. However our own Robert Armstrong placed 4<sup>th</sup>. Robert is a member of our IAC Chapter 3 from Atlanta Ga. which is also the chapter for three of our EAA members. (Frank Gorman, Kevin Gorman & Vance White)

Each of the eight days started with a volunteers briefing at 0830 hours. Since I was selected to act as a boundary Judge or Starter I sometimes had two briefings to attend. Just before the first flight the corner judges gathered up survival supplies, suntan lotion (spf 50), bug spray, ice water umbrella and comfortable chair which was loaded into a 4 wheel drive vehicle for the trip out to each of the four corners. Arriving at the acro box corner the first order of business was to chase away the cattle from the immediate area and recheck the boundary sighting device for accuracy. Seems the Aerobatic box was located in the middle of an active cattle pasture.

One reason for volunteering to be a boundary judge was to have the best seat in the house for watching the contestants perform an aerial ballet by some of the best pilots from all over the world.

On the starting line, teams from each country would bring their airplane to the staging line. There the pilot would receive last minute information on weather, box conditions and encouragement from the team coach. After the chief starter had confirmed safety issues, the aircraft would be allowed to taxi for take off and flight into the box.

Once inside the box the pilot's skills were scored by selected judges from countries such as USA, Britain, Spain, South Africa and others. These judges had some pretty impressive credentials and were very focused on the task at hand. They looked for every detail expected in each figure of the sequence as the pilot urged their mount to the edge of the envelope and when the pilot went beyond the edge of the marked box, the boundary judge could be heard

If you're faced  
with a forced  
landing, fly the  
thing as far  
into the crash  
as possible.

*Bob Hoover*

over the radio, "CORNER DELTA, OUT WEST". This infraction cost the pilot many valuable points in their overall score.

At the end of the day when the planes were safely secured you would usually find someone had "found" a ice chest full of "barley pop" to bring the heat of the day to rest. I had the pleasure to meet and talk shop with some of the best and also legends of the sport of Aerobatics. Past World Champions, present hopefuls, judges from across the oceans, and the many volunteers that make up the contest.

Being a world contest, the language barrier from so many countries could be broken with the universal "flying of the hands motion." Step up to the Russian and have a puzzled look on your face about his just screwed up figure in the last sequence could best be described by flying the figure with your hands. They would usually just smile and use the same method to show you what happened. That tail slide that should have been "wheels up" or the spin that turned out to look like an aileron spiral, then a hand shake simply said better luck next time.

More info can be found on the web at [www.wac2003.org](http://www.wac2003.org)

Both optimists and pessimists contribute to the society. The optimist invents the aeroplane, the pessimist the parachute.

— George Bernard Shaw

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We're on the Web!  
[www.acroflyer.com](http://www.acroflyer.com)

- 1. Any landing you can walk away from is a good one.**
- 2. If the airplane can be flown again it is an excellent landing.**
3. There are varying degrees of a bad landing.

## Flying!

This is all about fun. You can grab ahold of an airplane here, and literally take your life in both hands. One for the throttle and one for the stick, and you can control your own destiny, free of most rules and regulations. It may not be better than sex, but it's definitely better than the second time. Adrenaline is a narcotic; it may be a naturally induced narcotic, but it is a narcotic. And once you get it movin' around in there, it's a rush like none other, and when this puppy gets movin'...

— Alan Preston,

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## The cubby



I have it on good rumor that the club aircraft is a few steps closer to flight status. Someone said the wing has been covered and a prop found.

Whoever is more in the know is encouraged to send me a few photos and more details of the project

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## Tail wheel shimmy

by Cy Galley

Do you fly a tail dragger. Does your tailwheel shimmy? Shake? Bang from stop to stop? Most tailwheels will shimmy quite easily if the design geometry is wrong (most are); if the friction device (Scott #3234, thrust plate- #4 of diagram) is mis-adjusted, gets grease on it; if there is looseness in the various parts; or if the mount or spring is not secure.

The first item, geometry is easy to check. The pivot should be vertical, never slanted to the rear of the aircraft. If the pivot is slanted towards the front of the plane, it is O.K. This positioning is controlled by the tail wheel spring. You can replace the spring, or have it re-arched. The re-arching has to be done cold. No heat! Some spring companies will do it but our local truck spring company will not have anything to do with aircraft springs due to their worry of liability. So if you have a large hydraulic arbor press at your disposal, press away. I have also seen it done with a large sledge hammer and a piece of channel iron. This gets a little noisy, but works very well. While you are at it, make sure someone hasn't removed a leaf in the misguided attempt to make the plane "ride" better.

Also included in the geometry check is the lean of the wheel. It should stand vertical from side to side. If it leans, then the spring or mount is twisted, or the axle has been bent. Check your hard rubber tire for "coning". A hard rubber wheel can be re-trued on a lathe by grinding or sanding.

Second, make sure that the rudder and the tailwheel are lined up. One can force any tail wheel to shimmy by touching down with the tail wheel cocked to one side. So check the springs so that the wheel and rudder are

aligned.

Next, there should not be any side play of the wheel on the axle. The axle nut tightness adjusts the wheel bearings as well. If there is a lot of play you might have to put an additional washer on the axle. If there is way too much play, check the wheel halves for damage or missing grease seals. Don't forget the cotter key after adjusting.

One of my pet peeves is the grease zerk on the wheel axle. I never ever use mine and you shouldn't either. When you use a grease gun to lubricate your wheel bearings you first have to fill the wheel cavity before any grease reaches the bearings. This takes a lot of grease, adds weight, and generally makes a big greasy dirty mess. How so? Between heat and centrifugal force the grease has nowhere to go but out of the hub to be slung all over the tailwheel assembly, rudder, and tail of your nice clean airplane. The amount of grease necessary to lubricate your bearings is minimal. Pack your bearings with a good quality automotive bearing grease designed for disk brakes by hand. Just fill the spaces between the balls or rollers. That is enough. More will just get thrown out to ruin the friction of the shimmy dampener. This is the last thing you want greased on a Scott tailwheel assembly.

Last, the friction of the pivot is the shimmy damper. The Scott 3200 friction cannot be increased by tightening the main pivot bolt. The assembly must be disassembled, degreased carefully, and the condition of the 'thrust plate' checked. The 'thrust plate' is held under pressure (against Scott #3207, washer - #3) by several small springs (Scott #3233, spring compression - #5). If there is not enough friction, either install a new thrust plate, install stronger springs, or the existing springs can be raised by putting something under them. Placing a spacer under the spring has a limit though as the coils can't be fully compressed. There must be some room for them to expand and compress.

**Remember, the newest and best tail wheel will shimmy if it isn't positioned on the airplane correctly or if the tailwheel isn't centered when it touches down.**