



"Chalk and Cheese" and "The Ballarat Breeze"

article
by
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(As they say Down Under)

This offering is simply an account of a first experience (mine), learning to fly Gyros, and as such, is probably nothing out of the ordinary, but considering recent articles in Rotorcraft – specifically the ones on accidents and "Pitch Dampener...." by Greg Gremminger – I feel that it might be, if not pertinent, perhaps complimentary to the stability problems presently being discussed.

To cut a long story short, I started training with Paul Bruty at Ballarat, near Melbourne, in his RAF 2000 (WITH horizontal stabilizer). Now, conditions at Ballarat airport are very often gusty and hot summer days present a lot of thermals, up-drafts etc...

Well, after five days of battling with a machine that to my apprehensive, novice pilot mind, was determined to pitch up and down like a drunken porpoise, I have to admit that I was saying to myself: "O.K., John, you'll probably, eventually learn to control this beast, but do you really want to bother? Do you really want to spend three hours on a cross-country flight, sweating and bug-eyed, with cramped jaw muscles and then need a mega-sauna and your chiropractor to set you right for the next, so called, pleasure flight???"

Luckily for me, I never had to answer the question.

On the sixth day, the wind was gusting hard enough to preclude useful training and Paul suggested we fit the newly arrived Sub4 reduction unit to his prototype Firebird.

Great!

Job done, we push her out of the hanger and run the engine. O.K. Paul says he's off to do a check ride. I

point out that the Firebird has no horizontal stabilizer – it was on the RAF. "No problem, mate! The Firebird's CLT!" And off he goes, with a concrete passenger, no H.S. in very gusty conditions. Fifteen minutes later, he's back, and dumps the concrete passenger. "All right, John, come on, in you get! You do the take-off!" He senses a slight reluctance on my part. "Remember what I said, mate? CLT! CENTER LINE THRUST!!" "Sorry, Paul," I mumble, "I thought it meant Chicken, Lettuce and Tomato..."



Paul Bruty

Now... Paul likes his students to figure out things on their own, which takes a lot of courage on his part (especially with a student like me) but which is something I really appreciate about his training technique, and he 'forgot' to remind me that the prop on the Firebird turns the opposite way to that on the RAF!

Well... Having heroically managed to avoid a flick roll on lift-off and stabilize everything about twenty feet above the runway, I hear: "Hands off, mate..." I obey, presuming he has his hands on. Not so!! He's fiddling with the trimmers...and we climb out, through gusting winds, under full power, hands off.

I flew the Firebird for the next two weeks and can honestly say that I don't remember one moment when she arbitrarily reacted in a pitch unstable manner. We fitted a H.S. the day after my initiation, but quite frankly, I couldn't tell the difference. Two other students, both with a number of hours more than myself, who had trained in the RAF I trained in and the much newer RAF owned by one of them, had exactly the same reaction when they flew the Firebird. Three students, two different machines, the same reaction. "Chalk and cheese."

As a novice, I do not pretend to present any conclusions, but as a novice I do claim one attribute. My



The Firebird hybrid at Ballarat, near Melbourne

lack of experience, my apprehension – fear, if you will – make me a super-sensitive ‘barometer’ to the handling characteristics of different machines, different conditions, different rotor blades etc. The expert Gyro pilot, unless he is conducting a specific, controlled experiment, or instructing, is, to a great extent, unaware of the feedback the novice is reacting to. His experience and honed instinct make controlling even an unstable machine a relatively unconscious act. This is a wonderful achievement for the individual, but maybe somewhat less of a plus for the sports gyroplane world in general where recreational pilots needs all the help they can get to stay alive during their weekend flying.

One attempt at a constructive (?) comment I would like to make. After my experience and taking into account everything I’ve read recently about Gyroplane stability, maybe we should think about changing P.I.O. (pilot induced oscillations) to D.I.O. (design induced oscillations).

Safe and happy flying to all.

P.S. One other thing. I’m very happy I trained for those five days in the RAF. At least I know what a pitch unstable machine is like to fly. Until we have a set of specific design parameters for pitch stability in pusher gyroplanes, I think all students should be given that experience.

John Fonseca receives comments, criticism, hellos and hatemail at jfonseca@libero.it



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