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FROM THE  
DESIGNER'S  
NEST

Fellow builders:

Lynn Zillmer just passed on to me a letter from Bob Alexander. Bob's letter asks a very interesting question. "How much control does the Osprey have with the loss of one of the three axis controls and has this ever been tested?"

The Osprey was designed with the F.A.R. Part 23 used as the guide line (The bible for certified aircraft.) To my knowledge there is no requirement for a redundant set of controls for any of the three axis used in single engine aircraft. It is assumed that if the control system is properly designed that a failure is no more likely than any other critical component. Large passenger aircraft require a different set of rules however. A Boeing 747 has a hydraulic system linking the control surface to the pilots wheel. It has three back up systems in the event of a hydraulic failure.

I favored a separate elevator trim system in designing the Osprey over a bungee system because it gives a better feel and does give another way to control pitch attitude.

I have tried to fly the prototype on many occasions using the elevator trim as the primary pitch control with some success. It takes a lot of practice to make turns, descents and climbs using throttle and elevator trim only but it can be done. Under no circumstances would I recommend you practice this on an actual landing but with some altitude it's safe. The problem arises when you get a pitch change so great that you start fighting the capacity of the trim adjustment and with two people up front it requires more aft trim which you may not have under extreme conditions.

As for the other controls the Osprey seems to get along quite well without ailerons. You can make descent turns up to 10 degrees using rudder only. Over ten degrees there is a wallowing attitude. Using ailerons only and no rudder the aircraft is more prone to wallow however it will get around the turn. In order to try your control system it is very important that the aircraft be trimmed for hands off flight in a cruise condition. All said and done the little Osprey seems to be quite stable on all three axis. I have found that pilots, not used to the responsiveness of the Osprey confuse this as an unstable aircraft. On several flights I had to tell them to let go of the controls and things fell into place. It doesn't take long and he finds the delight in flying a ship that responds with a minimum of effort.

Peg and I went to one of our favorite Fly-Ins two weeks ago. It's put on by the U.S. Seaplane Association and held at Clear Lake, Ca. It's a great gathering of all kinds of sea planes from R.C. models on floats up to Grumman Mallards. Two seaplane ramps are available and the aircraft are parked on the lawn under the trees. Demonstration flights and contests go on for two days and everyone seems to have a ball. Three Ospreys were there, the only homebuilts in attendance.

Regards to all,

George

## FUEL SYSTEM

This subject has been one of interest for a long time. Some of you guys experienced your own problems with this. I don't want to say I have a solution neither do I want to say that the drawing is wrong but I only want to raise the point so we can have a dialogue through this newsletter. Everyone of us can make a mistake by choosing the electrical fuel pump. Which one is the best, where to get it, what is the part number of this pump? We need a pump that lets the fuel go through one side only. In other words a pump with a self built check valve.

When I was at Oshkosh this year I was stunned when I heard about Ernie Hummel's accident. He is such a fine man! I don't want to make any accident investigation but having heard from people at the air show that mechanical fuel pump was the problem. I would like to ask a few questions: a) Could this happen if the electric fuel pump was installed in parallel with the mechanical one? b) What can happen if the mechanical fuel pump actuator failed (broke off?) Sounds impossible but ... this has happened before. c) About the gascolator location! I know we don't have the choice for installation but what will happen if you taxi your plane on a very hot day and wait twenty minutes before take off. The engine will cook but the gascolator behind the oil pan might start boiling and vapor lock might be in sight at horizon? d) I know we need a kind of filter between the tank and the carburetor but do we need such a big item like a gascolator? Could we use an in line filter since the lowest point of the system is the bowl at the very bottom of the gas tank and we have all the facilities for draining all the water we might have? e) Does anybody know a brand of gascolator which has a different shape than the usual type. We surely could use it in our tight cowlings.

Before I go fellows, I think it's about time we use this newsletter to share not only our bright ideas but also nightmares if there are some. I know I waited too long before taking a pen and talking to you through Lynn and Ken's paper. But sometime the mind is busy but the body is lazy.

I have for sale an Osprey 2 complete frame with vertical fin with top and bottom mahogany skin on. Also 23 sheets of Birch plywood 50"x50" all sizes. Plus 2 beams of sitka spruce 4"x8"x10' long. An honest offer can't be refused.

Jean Desbiens  
490 Rochefort St.  
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(819) 373-7042 (after 5pm or Sat & Sun)



MAY GOD'S BLESSINGS BE IN EACH OF YOUR  
HOMES DURING THIS HOLIDAY SEASON.

KEN, LYNN, ALLEN, LONDA