



I am writing to express my appreciation for the Osprey 2 Newsletter. My project has been underway for 2½ years with another 2-3 years to go. I have found the suggestions and information from other builders to be very helpful!

Although not an expert designer or builder a few ideas and suggestions have surfaced during the progress of my project. I share these more to stimulate further development rather than tested products.

LANDING GEAR RETRACTION ASSISTS - Why not use a small 12 volt auto tire aircompressor coupled with modified gas springs. The little compressors will put out up to 200 PSI which can be connected to the gas springs through small nylon tubing. With a power switch, a high pressure limit switch, and a manually actuated tire valve, the system can be used to help raise the gear. For water operations the retraction assist is eliminated by opening the tire valve and bleeding of the air pressure. The compressor can also be used to inflate tires as well as an emergency air supply to operate a turn and bank gyro for limited time periods.

LANDING GEAR WARNING SYSTEM - Of major concern to any amphibian operator is the correct position of the gear for water/ground landings. This means there should be an active system that required definite pilot action. The attached drawing illustrates such a system. When the throttle is retracted an intermittent alarm is activated (light and horn). The pilot must then set the select switch for either a water or ground landing and place the water rudder and landing gear in the proper position. He then pushes the clear button. If the gear position does not agree with the selector switch position the alarm will continue until they are the same. On a go around the system is automatically reactivated and will require pilot action when power is reduced the next time. Once the gear is in the proper position the alarm goes off and the gear position indicator light stays on. When reducing power for letdowns or stalls, with the gear up, it is necessary to place the selector switch in the water position and then push the clear button each time the power is reduced.

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LANDING SPEED - Why not use full span flaps and roll control spoilers? The maximum C_l of the Osprey 2 is 1.3 for a stall speed of 60 mph at max gross. Full span slotted flaps at 50° will increase the C_l to at least 2.3 for a stall speed of 46-47 mph. This is a very significant change in view of the kinetic energy involved in a crash situation. I realize a maximum of only $10-15^\circ$ could be used for normal water landings but in an emergency who cares about what may happen to the flaps? I have worked out a flap and spoiler arrangement which can be fitted to the rear spar of the wing without any major modification to the remainder of the structure. If anyone would like to verify the aerodynamic and structural analysis, and publish an "official" version I would be willing to provide them a copy of my preliminary study. Think of it, an Osprey 2 that would stall at 40-42 mph when lightly loaded!

Keep up the good work on the newsletter!

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