



SUMMER WITH AN OSPREY 2

In my last letter I was just about ready to have my Osprey 2's final inspection.

Well it was performed on the last week of May and a flight permit was issued on May 28, 1985.

Taxi tests were performed during time between inspection and issuing of flight permit. A number of slow and high speed runs up and down a 7000 ft runway. Control is very good and easily adjusted to both with the nosewheel off and on runway.

Now all that remains is the flight test, "Number UNO", the one for which there has been 3 1/2 years of dedicated work. The day was May 30, 1985 in the early evening. The wind was 240 degrees at 5 knots. Runway heading 240 and 7000 ft in length.

I decided to perform take offs with a land flight over runway approx 50 ft and land straight ahead for a number of times rather than a complete circuit or flight in airport area with a high altitude. Taxi to position runway 24, full power with acceleration good; at 55 knts Osprey very light on gear and rotation performed elevator control in pitch mode very sensitive on as result I over controlled but was able to adjust to sensitivity. Flew approximately 5000 ft and landed with nose high attitude which requires some adjusting to because of sloping canopy of Osprey 2. Roll out and directional control very good and undercarriage shock absorption very good. Back tracked to threshold and repeated sequence with approx same results. Returned to ramp and inspected aircraft for further sequences.

Next tests were performed June 4, 1985. Same sequence repeated 4 times and was uneventful, however throughout all sequences aileron response was slow. Further testing and rotation at 65 knts improved aileron response however heavy.

NOW HERE IT COMES - Test #5. After having to clear runway for landing traffic returned to threshold #24. Full power take off, both feet balanced pressure on rudder pedals for directional control and at 55 knts rotation. Osprey veered sharply to right, right wing stalled, full left aileron, and Osprey side-slipped to right and banged right gear on runway, bounced back in air, control regained and flew again to approx 5000 ft and landed. At time of runway contact undercarriage was severely overloaded and it broke inner control rod end stud. Therefore at time of landing right gear folded up and I slid 313 ft on keel and right sponson with very little damage. (Repaired in 6 hours with no structural damage mainly superficial).

The cause of the sharp veer to right was that I had gotten my left foot on the up-right at Sta #13 and therefore after becoming airborne I could not balance rudder pedals and had applied as result full right rudder. Sta #13 both sides requires a small guard to prevent feet from becoming entangled. Also increased rod end stud to 3/8" dia instead of 1/4" studs as listed in drawings. Replaced external keel with 1" x 1" x 1/8" square aluminum and epoxy and screwed to hull.

After repairs completed next flight was performed and flight maintained at 1300 ft and within runway range. At this time I was performing gradual right and left turns as well as climbing and descending for a general feel of aircraft response and control when there was a shotgun type bang which sounded to be from the rear. There was no change in Osprey flying character or any vibrations or unusual sounds afterwards. Made a cautious landing and inspected aircraft for damage and or signs of structural failure of which there were none.

What to do next but fly, this time with a chase plane.

Normal departure, raised undercarriage and all controls effective and Osprey performed very well. Chase plane informed me that my nose gear door is open. Then in approx 5 minutes same shotgun goes off as nose gear door closes in sliding turn, and I now am relieved as noise has been identified and chase plane confirms nose gear door is now closed. Problem corrected by attaching small cable to gear door and nosewheel fork tube (1/2 x .035) so that when gear retracted cable pulls gear in closed direction which then allows spring to keep door closed along with air pressure.

Flew Osprey for 15 hrs with no further problems. Developed confidence in flying characteristics which are very responsive and my biggest problem was overcoming landings with canopy slope. (It is intimidating) The aileron's on my Osprey are heavy when in flight, so I will change M/A during winter to make easier to move.

Some general numbers:

Empty weight - 1065 (considerable mods and instruments)

C of G - 17.79" aft of datum

Engine - Lycoming O320A1A

Prop - 2 blade Ole Fahlin

Take Off Roll - @ 1385lb - 550-650 ft land

Rate of Climb - @1385lb - 1100 ft/min

Cruise Speed - 107 kts @2400 RPM

Take off Water - @1385lb - 900-1000 ft

Next step was to get the Osprey wet so I was able to taxi down road from runway and into lake next to airport. Spent approx 3 hr on lake getting used to Osprey's characteristics. Only problem with water was I couldn't get undercarriage down in water. Problem was with gas springs which were too strong. Installed shorter valves and adjusted pressure to give retraction effort of 35-40 lbs on static retraction tests which allows enough M/A to lower gear & submerge tires in water.

Again all controls work very well in water and effective with full power except aileron heavy again as air loads build up.