



## **E-Props Durandal 100 vs Duc Swirl COMPARE on Savannah-S 28-07-2017**

Savannah Africa conducted a test on the E-Props Durandal 100 M to compare performance with the Duc Swirl on the Savannah-S in order to establish which prop gives the better results.

Attached are the results of in-flight performance of the two props under very similar conditions. There was no significant difference with in flight performance between the two propellers.

The E-Props has better traction when taxiing and accelerates the aircraft quicker in the initial phase of take-off. Savannah Africa conducted take off roll tests with the two props set at exactly the same pitch as was the case with the in-flight tests. First with the E-Props Durandal 100 which was already fitted to the aircraft and then the Duc Swirl which was still fixed to its hub at the same pitch that it was set for the in-flight trials.

The take-off roll tests were on a rough grass strip at Robertsville airfield, no wind condition, QNH 1022, T° 18° C, one crew on board and half full standard tanks of fuel. We averaged the distance of 5 take offs in quick succession with each of the propellers fitted to the same aircraft.

Average take off roll using the E-Props Durandal was **47 m**.

Average take off roll using the Duc Swirl was **54 m**.

The Durandal thus having the better take off performance of the two by a margin of **13%**.

### **ADVANTAGES OF EACH**

#### **E-PROPS DURANDAL 100**

- 1) The e-props Durandal is lighter with lower mass moment inertia.
- 2) The e-props is easier to set up the pitch more accurately. No knurling on the prop root.
- 3) The e-props does not have an aluminium collar so is less susceptible to corrosion in a coastal environment.
- 4) The e-props has a much longer time to inspection (2000 hrs as opposed to 800 hrs on the Duc Swirl)
- 5) The e-props is smoother running requiring no balancing.
- 6) The e-props results in a 13% shorter take off roll.
- 7) E-props are a pleasure to do business with.

#### **DUC SWIRL**

- 1) The Duc Swirl is a more robust looking propeller more suited to a "Bush plane".
- 2) The Duc can be removed from the aircraft without having to reset the pitch.

**In conclusion we would say that the E-Props Durandal is the better propeller**