

S-21 Progress Report 22

Oshkosh 2018

Our flight to the show gave us an opportunity to compare performance between the Titan 340 Raven, and the 912ULS powered Raven and Outbound. We typically cruised at 100 knots. The Titan powered Raven burned right in the middle, 5.5 GPH, with the Outbound being the lowest in fuel burn.

We had a busy week that resulted in many new sales of the S-21, with the rudder work shop proving a great success. Five rudders were assembled, the average time turned out to be two hours. That is impressive considering two of the five never held a rivet gun or cleco pliers before! The end result was five airworthy rudders and a much better idea of how easy the S-21 build can be.

Many thanks to everyone who stopped by the booth. We truly appreciate your patronage and as always, we welcome the friendship and exchange of ideas and stories. And most of all, letting us be a part of your aviation and personal lives.



Titan Prop Testing

Flight test of the Whirl Wind two-blade ground adjustable prop on the Raven with the 141 wings has been very exciting. The first pitch setting was a bit too much, but it did show the 141 wing can cruise an easy 150 MPH IAS at only 2300 RPM. Later testing settled on a pitch setting that allowed a healthy rate of climb and good cruise, 143 MPH IAS at 2400, ROC 1200.



Door Build

The production parts for the S-21 doors are through test assembly. They feature a cut and formed-to-fit bottom half, pre-cut bottom trim flanges, and a trim-to-fit top half. This cuts assembly time considerably, and offers the resilient feature of Lexan for the edges, over light sheet metal.



Scenes Inside the Paint Shop

Production of the Ready-To-Fly Outbound is underway. Here are some photos of how we fixture sub assemblies for painting. Being able to rotate a component a full 360 or flip flop 180 degrees can make the difference between a pro job or one with runs and dry spots.





Why Different VNE's?

There has been some confusion with the lower VNE we recently published for the Rotax 912ULS version of the S-21. In actual flight testing it has proven difficult to reach the 215 MPH due to drag. The best we have been able to dive to, with the current prototype has been 170 MPH. That changes with the bigger heavier engine. The purpose of the high VNE is not so you can dive-bomb to your heart's content, it is to have plenty of margin at high altitude during flights with high indicated airspeed (thus high true airspeed). The 921ULS powered Outbound simply will not achieve a high indicated, at near the service ceiling. However, a turbo charged 340, 360, or Rotax 914 or 915 may. We will amend the published VNE to 215 MPH IAS for the 912ULS version, because technically there is no difference in the airframe between the 921ULS and Titan 340.

Fuselage Assembly

Assembly of major components of customer planes and our new demo is underway. Eddie Gil, our lead in assembly, finds ways to make tailcone work comfortable while transfer drilling the middle seam of the top two skins for the stringer.



Notice of Price Increase:

We will be increasing the price of the Taildragger version of the fuselage to \$11,000 and the Trike version will increase to \$12,895 as of September 15th due to increased cost in materials.

Thanks for stopping by, more to come soon! RJS