Surfaces Aircraft Design Software

In today's market there has been little in the way of elegant CFD aircraft design programs. There are expensive CFD packages which to their credit, can create nice looking solid models, however to extract any data requires a great deal of costly pre and post processing time and labor. On the other extreme, we see a lot of "plug and chug" style aircraft design programs, which are much more affordable, easy to use and provide a quick alternative to doing the math by hand, however they lack the capabilities that a true CFD program can provide as these programs are really not much more advanced than a good excel spread sheet. There has been no quick, intuitive and accurate solution until now.

Now obtaining stability derivatives and aerodynamics load data is easier than ever. With little more than a picture or three view drawing and one known dimension, **Surfaces Aircraft Design Software** can scale your image and allow you to easily construct a 3D vortex lattice model of your airplane. The program has a simple design philosophy. To create a model; drop points, connect the points with vectors and select vectors to create panels.

After a model has been created, Surfaces offers options unlike any other. Some of the features include: One Click Determination of the Neutral Point, Calculation of over 60 Stability Derivatives, Sweep Scripting, Aerodynamic Load Data, Ground effect Modeling and Air flow visualization. Surfaces can quickly perform all dynamic stability analysis by generating graphs, videos of the model in motion or even an entire dynamic stability report. The program allows the user to incorporate flaps, slats, ailerons, elevators, rudders and other control surfaces into the design. The user can then trim the aircraft about the three axes, at any speed or altitude and under any CG or power setting. These powerful tools can be used to run a variety of "What if" scenarios in minutes instead of the months required using the pre and post possessors of traditional CFD programs.

Embry-Riddle Aeronautical University in Daytona Beach, FL has recently started utilizing Surfaces in the class rooms of its aerospace engineering department. In industry, Cirrus Aircraft relied on Surfaces extensively in the design of its SR-22 and Vision Jet. Surfaces is available in a variety of configurations. The student version sells for $129.00. There is also a homebuilder and professional version priced at $2355.00 and $4679.00 respectively. Special university and site licensing prices are also available.

Like many other programs, Surfaces too has limitations. As an example, the method that Surfaces uses (VLM) breaks down at supersonic speeds. Nevertheless it is still by far the best design tool for the vast majority of aircraft design challenges. For more information about Surfaces go to: **www.FlightLevelEngineering.com**