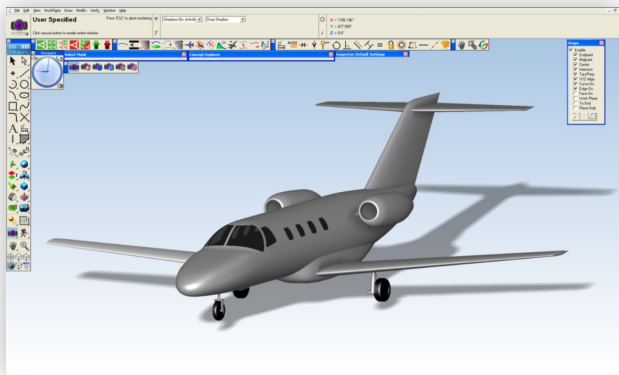


SharkCAD Pro-AP PROFESSIONAL 3D MODELS



With SharkCAD Pro-AP at your fingertips, professional 3D models can be created accurately and easily, at a fraction of the cost of comparable premiere CAD programs. The robust 3D modeling capabilities include Mesh Modeling, Solid Modeling and Surface Modeling, which allow you to easily render airplane prototypes and anything else that requires high-end visuals. SharkCAD Pro-AP is perfect for engineers, drafters, artists, scientists and hobbyists looking to turn a concept into reality.



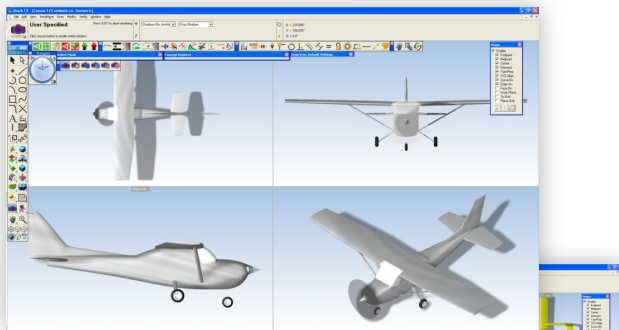
SharkCAD Pro Model

SharkCAD Pro-AP combines AeroPack with SharkCAD Pro. AeroPack is a collection of unique drawing tools created specifically for airplane design. Tools such as Create Airfoil, Wing Platform and Polyconic Surfaces allow airplane components to be 3D modeled with a matter of clicks. The Import Airplane tool allows users to import geometry from Advanced Aircraft Analysis (AAA) into SharkCAD Pro-AP as a 3D model.

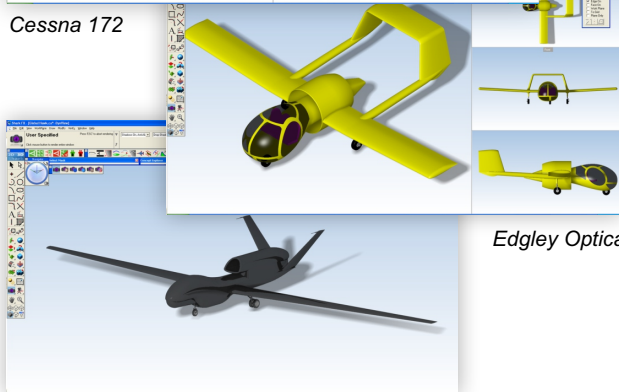
SharkCAD Pro-AP + AAA: Bundling SharkCAD Pro-AP with AAA will save you hours on geometry input and allow you to quickly and easily visualize your airplane model in 3 dimensions. Once your geometry is defined you can export your completed airplane from AAA into AeroPack as a 3D model to review or create a high quality graphic.

SharkCAD Pro Features

- Powerful Subdivision to NURB editing tools that allow you to combine mesh and traditional solid modeling in one environment
- Flexible license that allows you to install the program on multiple machines
- Supports 25 file formats including SAT, IGES, STEP, STL, OBJ, VRML, and DXF/DWG
- Advanced rendering capabilities to examine files and projects before sending them to a printer or fabricator
- Extensive drawing capabilities like the LogiCursor™ that thinks as you draw precisely guiding your mouse and cursor in both the 2D and 3D space
- Powerful 2D and 3D editing tools for intuitive workflows (blending, chamfering, shelling, text, dimensions, 3D to 2D drawing generation tools, bill of materials)
- Native Translators: SolidWorks, NX, ParaSolids, CATIA V5/V6, SolidEdge, and Inventor Import (PC Only)
- Boolean Edge Treatments
- Cover, Skin, and Loft with Guides
- Tangent Cover with Guides
- Patterns
- Lofted Solid and Lofted Solid with Guides
- Blend Three Faces, Continuous Curvature, Thumbweights
- Animation Tools

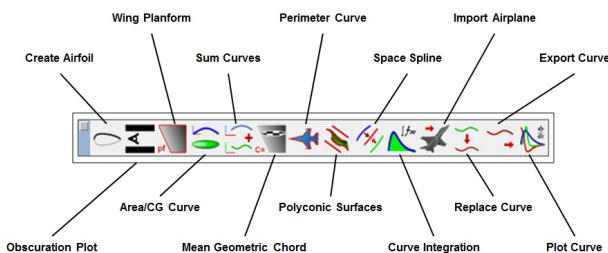


Cessna 172



Edgley Optica

GlobalHawk



AeroPack

3D Design Tools

- Associative NURBS-based surface modeling with skins, covers, and nets
- History Based/Feature Tree for Rapid Iterations
- Direct face editing for designing independent of history tree
- Constant and variable radius blending and chamfering
- Twist, bend, boss, hole, boolean, and shell features
- Mass properties and interference checking
- Automatic 3D to 2D drawing generation
- Rendering and animation
- 3D Printing tools to verify designs
- KeyShot live linking support
- Mesh Modeling
- Solid Modeling
- Surface Modeling

AeroPack

AeroPack is a collection of unique drawing tools created specifically for airplane design. It is an add-on toolbar for SharkCAD Pro and can be bought pre-installed as SharkCAD Pro-AP. AeroPack tools such as Create Airfoil, Wing Planform and Polyconic Surfaces allow airplane components to be 3D modeled with a matter of clicks. The Import Airplane tool allows users to import geometry from Advanced Aircraft Analysis (AAA) into SharkCAD Pro-AP as a 3D model.

SharkCAD Pro-AP and AAA

Bundling SharkCAD Pro-AP with Advanced Aircraft Analysis (AAA) will save you hours on geometry input and allow you to quickly and easily visualize your airplane model in 3 dimension. Once your geometry is defined you can export your completed airplane from AAA into AeroPack as a 3D model to review or create a high quality graphic. AeroPack Export Curve will locate and export the defining coordinates of a spline into a text file with just a few clicks. These coordinates can then be copied into Excel and directly imported into AAA. AeroPack Tools Create Airfoil, Wing Planform and Polyconic Surface allow users to quickly draw an airfoil from a predefined database, define a wing planform and create smooth surfaces between the curves that characterize your airplane.

AeroPack Tools

Create Airfoil - Airfoils can be constructed from files (spline through digitized points) or from NACA/NASA equations.

Obscuration Plot - Using the Obscuration tool, the field of view of a pilot, sensor or antenna can be

calculated and plotted. This plot will show any obstructions in the field of view from a selected point.

Wing Planform - The wing planform tool creates half of a wing outline, which is specific plane, consisting of leading and trailing edges along with root and tip chords. Based on provided information of aspect ratio, surface area, taper ratio and sweep of the quarter chord line, a planform will be created.

Area/CG Curve - Area/CG Curve calculates and displays as a graph the cross sectional area of a component or complete configuration as a function of the distance along a specified axis. This tool is useful for area-ruling transonic or supersonic cruise airplanes.

Sum Curves - Sum Curves allows the user to add two or more curves together. It can be used to sum Area/CG curves from different components.

Mean Geometric Chord - Mean Geometric Chord calculates the length and location of the Mean Geometric Chord for straight-tapered and cranked planforms.

Perimeter Curve - Perimeter curve creates a plot of perimeter length as a function of body stations. When used in conjunction with the Curve Integration tool, the Perimeter Curve tool can be used to find the wetted area of components.

Polyconic Surfaces - A Polyconic Surface is a surface constructed along a path of smoothly changing conic sections. Adjacent surfaces can be easily made exactly tangent to each other so there will be no bumps or dips in your finished airplane. This result is very important in composite airplanes with smooth surfaces that reveal the slightest errors in curve geometry, but nearly impossible to achieve with conventional or freeform curve drawing methods.

Space Spline - Space Spline creates a combined projection between two existing curves. Useful when creating control curves for polyconic surfaces.

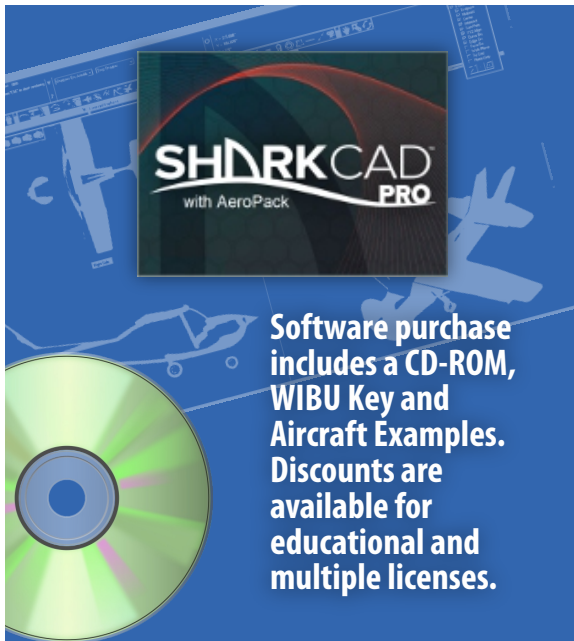
Curve Integration - Curve Integration will numerically integrate a curve to find the area underneath it. Used in conjunction with the Perimeter Curve and Area/CG Curve tools to find wetted areas and volumes, respectively.

Import Airplane - Import Airplane allows the user to create files in AeroPack based on data from .geo files created by Advanced Aircraft Analysis.

Replace Curve - The Replace Curve tool quickly updates geometry by replacing one curve with another in the feature tree of all objects in the model. This means that all geometry created from the original curve will update to the new curve. Useful when changing airfoils of lifting surfaces.

Export Curve - Export Curve exports the coordinates of a curve to a .spl file. This file can be imported back into SharkCAD Pro for use in future models.

Plot Curve - Plot Curve produces graphs of inflection points, curvature and first derivatives.



The image shows the SharkCAD Pro-AP software box and a CD-ROM. The software box is blue with a white and red logo that says "SHARKCAD PRO with AeroPack". The CD-ROM is green and white. Below the software box, there is text that reads: "Software purchase includes a CD-ROM, WIBU Key and Aircraft Examples. Discounts are available for educational and multiple licenses."