Software Support For The *CompAero* And *TurbAero* Software Systems

Subject: Software support by Ron Aungier for licensed users of the *CompAero* or *TurbAero* turbomachinery aerodynamic design and analysis software systems for personal computers.

The theoretical and empirical models used in *CompAero* and *TurbAero* are documented in three books authored by Ronald H. Aungier. Visit the ASME web site (www.asme.org) for an overview or to purchase the books.

> *Centrifugal Compressors: A Strategy for Aerodynamic Design and Analysis* (ASME Press, New York, 2000)
> *Axial-Flow Compressors: A Strategy for Aerodynamic Design and Analysis* (ASME Press, New York, 2003)
> *Turbine Aerodynamics: Axial-Flow and Radial-Inflow Turbine Design and Analysis* (ASME Press, New York, 2006).

An Adobe Reader software users guide for each system is also included as part of the software installation and will be found in the appropriate software directory after the software is installed. These sources and the extensive help provided by all applications should answer most questions about the content and use of the software.

Beyond those resources, I am committed to assisting users in successfully applying the software to their intended applications. The following types of software support are provided to licensed users at no charge:

- Users who need clarifications on the application of the software beyond the information provided in the sources cited above are invited to forward their questions to me.
- Inquiries from users concerning application of the software to specific types of problems are also welcome. There are often options available that may not be immediately recognized by the user.
- Software bug reports are encouraged. New users are the ones most likely to attempt something that others have not (or at least have not reported) and find a bug in the software that prevents it from doing something it is clearly supposed to do or causes it to be done incorrectly.

The most effective means of obtaining this free support is to e-mail a description of the problem or question and attach an input file demonstrating the problem where appropriate. An input file can be almost essential when reporting a software bug, since it may be difficult or even impossible to reproduce it from a description only. All input files supplied by licensed users are treated as confidential and proprietary to be used only to provide the support requested.

In the case of debug activity, it is usually possible to return a corrected executable file, help file, etc. as an email attachment. That approach involves some risk of incompatibility with other files in the software system, **particularly when the user's software is more than 12 months old or precedes the current version number**. But in most cases, it is an effective method of getting corrections to the user at no cost and with minimum delay.

Maintaining commercial software up to date was a major personal frustration during my 38 years of R&D management. Most commercial software suppliers require an annual maintenance contract for access to updates, almost always at a cost far exceeding the benefits. It is my policy to make full software updates available to licensed users at a nominal fee to offset my cost of supplying them (no profit margin included). This is a service offered to licensed users who choose to take advantage of it. I supply updated installation CDs for a fee equal to one hour of consulting (currently, $100.00). Flexware, Inc. currently has a similar policy, based on their internal cost structure. I actively encourage that policy by waiving all fees to Flexware for upgrade CDs so long as they are supplied to clients basically at cost. Users with Flexware resale licenses should contact Flexware (sales@flexwareinc.com) for a current price quotation and to order an updated software installation CD.

Software maintenance contracts are not encouraged because they are not very practical when the support must come from a single individual who may or may not be capable of supplying it when it is actually needed. Support above and beyond that described above (such as training, new software enhancements or specific design assistance) can be purchased as a normal consulting function. That is likely to be far more cost-effective for most users than the typical software maintenance contracts offered by most commercial software suppliers. An annual software maintenance contract can be negotiated and quoted to meet the specific needs of users who really want one, but they are probably unnecessary.

Ronald H. Aungier