



**Specialized tools for specialized work:
Autodesk Inventor Professional.**



Start with the world's #1 selling 3D mechanical design software, Autodesk Inventor® Series. Add specialized functionality for cable and wire harness, tubing and piping, and importing of PCB IDF files. And on top of that, include FEA functionality powered by industry-leading ANSYS® technology, to conduct stress and strain analysis directly in the Autodesk Inventor application. Now you're talking about **Autodesk Inventor® Professional**. Not only is it a powerful 3D tool, but it's also the best way to connect design teams with manufacturing engineers. Because it can integrate your existing 2D designs into your 3D design environment, it offers a risk-free path to specialized 3D design. Autodesk Inventor Professional—just another example of how Autodesk delivers the right tool for the job.

Design Virtual Models of Wiring, Cables, and Harnesses

With Autodesk Inventor Professional, the cumbersome process of designing cables and wires is now quick, easy, and painless. Now there's no need to create a physical prototype to add wiring. Simply specify two electrical points, and the software automatically adds a wire, representing both the physical geometry and the electrical data such as wire ID, signal name, and connection information. You can even bring in data directly from AutoCAD® Electrical.

Because you can easily visualize alternative harness and cable paths in your 3D model, you can consider intelligent design trade-offs while ensuring that there is sufficient room for your electrical system. Wire

lengths automatically update as harness paths change, and associative relationships update your harness when other components of your design change.

Communicate your final design to team members with complete assembly documentation detailing harness placement in the assembly, nailboard drawings to help manufacture the harness, and full reporting capability to assist in purchasing and assembly.

Create Tubing, Piping, and Flexible Hosing Automatically

Designing rigid tubing, flexible hose, and piping systems is no longer a time-consuming chore. Just select a start point, an end point, and any number of intermediate points to define the best route. If you want a more automated approach, just pick two points and



the automatic route functionality will generate routes from which you can choose. When it's time to add a tee or a junction, simply locate it in the standards-based fittings library and drag it to the route. It's that simple.

Create and modify piping paths using a rules-based router, and watch as changes are associatively updated in your drawing. This allows you to automatically adhere to design rules, such as minimum or maximum length, thus helping enhance quality and increase productivity. And even when you create nonstandard designs, automated tools provide flexibility and control. For example, creating bends of custom radii and angles is quick and easy when you prefer to bend a pipe rather than insert an elbow.

Autodesk Inventor Professional helps you communicate your final design to your manufacturing team, with fully detailed assembly drawings and support for outputting popular Piping Component Files (PCF) to create isometric drawings. Your purchasing team will appreciate the parts list roll-up feature, which allows you to create unique part numbers and consolidate common components in the bill of materials.

Analyze Part Models for Strengths and Weaknesses

Examine how your parts will perform in the real world by executing stress and strain analysis directly in Autodesk Inventor Professional—powered by ANSYS technology. No specialized expertise is required; simply define the loads on a part and the software automatically creates an FEA (finite element analysis) mesh and provides feedback on safety factor and material performance. Because you

can view the results of your analysis without leaving the Autodesk Inventor environment, you can make quick modifications and rerun your simulation until you get the results you want.

You can also share your simulation by creating reports or exporting bitmaps. What's more, you can use Autodesk Inventor Professional data directly in other ANSYS products whenever you want to perform more advanced studies or further evaluations.

Create Printed Circuit Board Geometry

Autodesk Inventor Professional automatically creates Autodesk Inventor geometry for printed circuit boards using IDF (Intermediate Data Format) files. By importing and automatically generating accurate circuit board information, you can maximize space use, detect potential part interference, check mounting hole locations, and ensure proper fit without the need for a physical prototype.

Communicate and Manage Design Data

Fully integrated with Autodesk Inventor Professional, **Autodesk® Vault** makes data management more efficient by organizing your design data and protecting it from inadvertent changes. This easy-to-use data management tool makes work-in-process data more accessible and reusable, while avoiding the versioning problems inherent in sharing files among workgroups. Most importantly, Autodesk Vault is tightly integrated with your Autodesk design applications, making data management easier than ever before.

Autodesk Gives You More

Autodesk Consulting offers services that can help you streamline your business processes and get the best possible return on your investment in Autodesk technology. Visit us at www.autodesk.com/consulting.

Autodesk® Subscription is the easiest way to keep your design tools and learning up to date. For an annual fee you get the latest versions of your licensed Autodesk® software, web support direct from Autodesk, self-paced training options, and a broad range of other technology and business benefits. For more information, contact your Autodesk Authorized Reseller or visit www.autodesk.com/subscription.

Purchase or Learn More

Purchase Autodesk software through your Autodesk Authorized Reseller. To locate the reseller nearest you, visit www.autodesk.com/reseller.

Take the safe and easy path to specialized 3D design and analysis. To learn more, visit www.autodesk.com/inventorprofessional.

Autodesk®

Autodesk, Inc.
111 McInnis Parkway
San Rafael, CA 94903

Autodesk, AutoCAD, and Autodesk Inventor are registered trademarks of Autodesk, Inc., in the USA and/or other countries. All other brand names, product names, and trademarks belong to their respective holders.

Autodesk reserves the right to alter product offerings and specifications at any time without notice, and is not responsible for typographical or graphical errors that may appear in this document.

© 2005 Autodesk, Inc. All rights reserved.
00000000000115110