

Technical Literature

Position sensing. The 415-page **ifm efector** *Position Sensors and Object Evaluation 2006/2007* catalog offers over 800 product solutions for position sensing and object evaluation applications.
ifmefector.com Info Card 420

Network I/O. The 590-page **Turck Network I/O** catalog combines nine other catalogs and brochures. Drawings, pin-outs, data tables and part numbers appear on a single page.
chartwell.ca Info Card 421

Miniature fluid power products. **Clippard Instrument Laboratory** has released a 388-page catalog of miniature fluid power components, including cylinders, electronic valves, control valves, modular valves, fittings and hose, and air preparation.
clippard.com/catalog-b Info Card 422

Handles, knobs. **Jergens, Inc.** has published a 64-page sourcing guide for its handwheels, handles, levers, cranks and knobs.
jergensinc.com Info Card 423

Electronics hardware. The 144-page *Catalog M55* from **Keystone Electronics** features 1000 new products which add to its SMT and THM interconnect components and electronic hardware.
keyelco.com Info Card 424

Flywheel couplings. **Ringfeder Corp.** has released the *Arcusaflex AC-31* catalog of flexible flywheel couplings for a torsionally soft backlash-free connection between an internal combustion engine and the driven components of generators, compressors and pumps.
ringfeder.com Info Card 425

Screw covers. **Ark-Plas Products** has released its *Decorative Screw Cover and Quick Bind Hardware* catalog. The Screw Cover line includes 10 styles in a variety of sizes and the Quick Bind line features Post and Screw binders from 3/16 to 2 in. long.
ark-plas.com Info Card 426

Cooling and blowoff products. The 128-page *Exair Catalog 21* is a technical guide said to offer solutions to common industrial cooling, drying, conveying, blowoff, cleaning, and static electricity problems.
exair.com Info Card 427

Leadscrew assemblies. Technical catalog of leadscrew assemblies from **Haydon Switch & Instrument** describes acme leadscrews, advanced coatings and the anti-backlash nuts.
hsi-inc.com Info Card 428

Washers. **Boker's, Inc.** has announced the *2007 Washer* catalog offers over 21,000 non-standard washer/spacer sizes with no tooling charges. Metric sizes and large diameter washers are available.
bokers.com Info Card 429

Product development management
The 512-page textbook, *The Pursuit of New Product Development* by Marc Annacchino, provides a guide to understanding of market needs, within a sound business model, including a well-defined financial strategy and well-thought-out strategic goals. A fee applies.
books.elsevier.com Info Card 430

Material separation process. **Eriez** has announced literature on the company's PolyMag Separator and Process that addresses sequential 3D blow molding, two-shot injection, co-extrusion and overmolding processes.
eriez.com Info Card 431

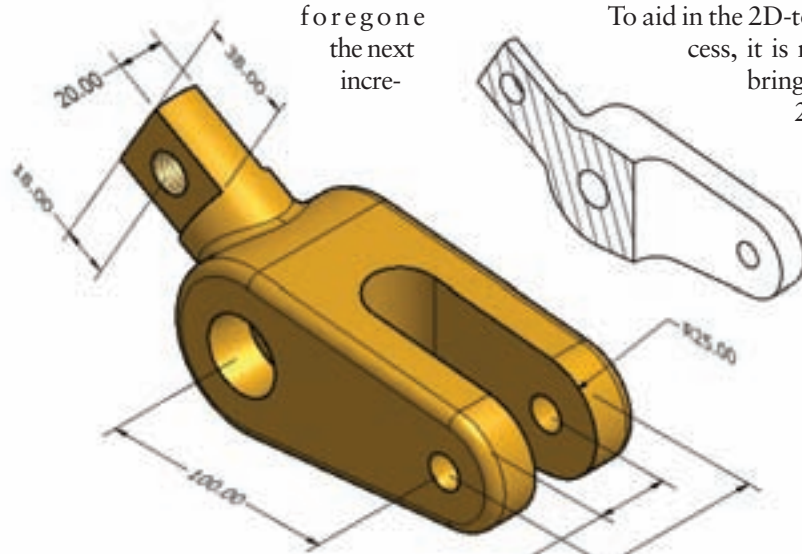
CAD Industry Watch

Inventor draws on AutoCAD resources

By Bill Fane

Of the couple of hundred or so new or improved features in Inventor 2008, there are two that immediately jump out at you. Obviously, the first one is the release name.

Autodesk have foregone the next increment



Inventor 2008 adds axonometric dimensioning (left) and hatching of pictorial sections.

mental jump beyond 11, and instead have gone with the year format that is becoming standard in the software industry.

The other major change becomes apparent when you start a new file. As usual, you need to select the correct template to match the type of file you are creating. There are templates for parts, weldments, sheet metal parts, assemblies, presentation files, assemblies, 2D working drawings, AutoCAD .DWG files... Wait a minute! AutoCAD .DWG files?

That's right. Autodesk Inventor now gives you your choice of two different native file formats when you create your 2D working drawings from an Inventor part or assembly. You can create new 2D drawings using Inventor's traditional .IDW format, or you can use the new Inventor .DWG format.

Let's focus on the Inventor .DWG format. 2D working drawings in this format look and work like normal Inventor

Choice of two different 2D native file formats

.IDW files, and you have all of the usual creation and editing tools available along with some new ones. The resultant file is fully associative back to the solid model.

Having created the new Inventor .DWG file, it can now be opened in the new AutoCAD 2008 release. Everything comes across in paper space.

You can now do normal AutoCAD editing on anything except the individual model views. Each model view comes across as a non-selectable, non-explodable 'no user parts inside' block. You can snap to objects within it, but that is about it. The file will survive a round trip out to AutoCAD and back to Inventor.

To aid in interoperability, Inventor

2008 can open an AutoCAD drawing directly without going through a translator which was part of AutoCAD itself. This means that AutoCAD does not have to be installed on your Inventor machine, and drawings open much faster. AutoCAD drawings opened this way can be zoomed, panned, plotted, measured and a few other operations – but cannot be edited.

To aid in the 2D-to-3D transition process, it is now much easier to bring existing AutoCAD

2D geometry into Inventor to incorporate into the modeling sketches, or into Inventor 2D drawings for use as annotation items.

All of the foregoing discussion about Inventor .DWG files applies both to individual parts and to assemblies.

There are several other documentation and annotation additions and revisions in Inventor 2008.

First, axonometric dimensions can now be applied directly to pictorial views (above, shown left), including associative dimensions retrieved from the model. They automatically show the true length

of the object regardless of the viewing angle.

Second, automatic hatching can now be turned on for isometric views created from a cross-sectioned 2D view (shown right in the illustration on left). To make this capability even more powerful, unique hatch patterns can now be added to the material definitions. A cross-section of an assembly can thus show a different hatching for the materials used for each part.

A great many additions and improvements have also been made to Inventor's Design Accelerator. For example, the interfaces for the shaft generator and spring designer have been completely redesigned for easier use, while the chain generator now allows for an unlimited number of sprockets.

Inventor 2008 Professional also gets a number of additions and improvements. For example, the Dynamic Simulation module can automatically convert assembly constraints into simulation joints, while Cable and Harness now supports flat ribbon cables.

All in all, Inventor 2008 is a worthy upgrade if you are already running an earlier release, or is excellent for transitioning to 3D if you have not done so yet.

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AutoCAD 2008 measures up

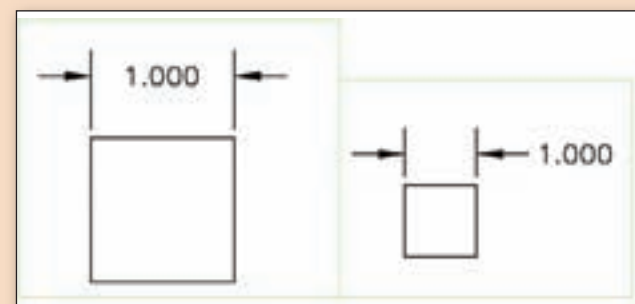
Right from Day 1 of AutoCAD, drawing scale was always a big issue and a big problem. With minimalist documentation and no instruction, it took us a while to figure out that we should draw full size and then scale the annotation and dimension sizes to suit the plot scale. Multi-scale detail views could be a real nightmare.

AutoCAD 2008 fixes all this with its new automatically-scaled annotations. Consider the illustration (right) with two paper-space layout views of the same object at two different scales. Note how the dimensions show the same value, while the dimension text height and arrowhead sizes are the same. The magic here is that there is only one dimension applied in model space. It has automatically scaled itself to match the viewport scale. I can also shift back and forth between the two plot scales in model space and everything adjusts accordingly.

Automatic annotation scaling can also be applied to text, mtext, hatch patterns, blocks and attributes within blocks.

And this is just a starter. About a quarter of the new or improved features

relate to annotation, including such features as the ability to create multiple leader arrows that lead to a single notation, dimension and extension lines that can have a break in them where they cross other objects, and tables that can



AutoCAD 2008 annotations can re-size automatically to suit the appropriate drawing scale.

link to an Excel spreadsheet.

Another good one is layers can be assigned different colors in different viewports, so you can have one viewport that emphasizes the hydraulics in a machine while another highlights the wiring in the same machine, with both views being derived from the same model space drawing.

In addition, AutoCAD 2007 will open and edit an AutoCAD 2008 file in spite of the new things like linked tables and annotation scale capabilities. They do not have their full functionality in AutoCAD 2007, but they will survive a round trip back to AutoCAD 2008.