

# Acrobat Insider for Manufacturing Professionals

## Tips and Tricks for Adobe Acrobat 3D

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**Editor's note:** Welcome to the world of Adobe® Acrobat® 3D! *Acrobat Insider for Manufacturing*, brought to you by *Cadalyst* and Adobe, is written by Don LaCourse, contributing editor for *Cadalyst* and editor of [3DCADtips.com](#). Don will guide you through the exciting features of this latest addition to the Adobe Acrobat family. Every month, he'll discuss in depth an important feature that makes Adobe Acrobat 3D unique. He'll also give time-saving tips and tricks to help you use this product more efficiently. Please [send in your Acrobat 3D tips](#) to share with other users — if we publish your tip, we'll send you a *Cadalyst* t-shirt! (Please note: If you do not wish to receive future issues of Acrobat Insider, [click here](#) to unsubscribe.)

## Welcome to the Next Dimension

New Adobe Acrobat 3D lets you create, publish, share, and secure your 3D designs

by Don LaCourse

### What Is Adobe Acrobat 3D?

Adobe Acrobat 3D is a brand-new application that enables you to create, edit, publish, and share 3D models in Adobe PDF documents in the Acrobat family. You can import 3D models directly from 3D CAD files or capture content from 3D CAD applications. Other members of the project team can view and interact with your 3D designs by simply using Adobe Reader® 7.0.7 and Acrobat 7.0 Professional. Reviewers can red-line designs and add comments. You can also restrict access to your documents.

### Who Should Use Acrobat 3D?

Acrobat 3D targets design engineers, technical publishers, and creative professionals in manufacturing industries such as automotive, aerospace and industrial machinery, as well as architecture, engineering and construction (AEC).

With Acrobat 3D, you can:

**Publish 3D models to Adobe PDF** — You can publish 3D CAD content as an Adobe PDF file in three ways: by dragging and dropping the content into Acrobat 3D; by right-clicking the content file and selecting the Adobe PDF Conversion option; and by using the included 3D Capture utility.

**Convert 3D designs from major CAD applications** — Create Adobe PDF files by easily converting 3D designs from major CAD applications. Enable extended team members to review documents without expensive CAD applications or specialty viewers.

**View designs interactively** — Using the enhanced 3D Toolbar, you can rotate,

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### NEXT MONTH

#### Accelerate the design process

Speed your workflow by using Acrobat 3D to quickly capture 3D models and safely send them to others for review.

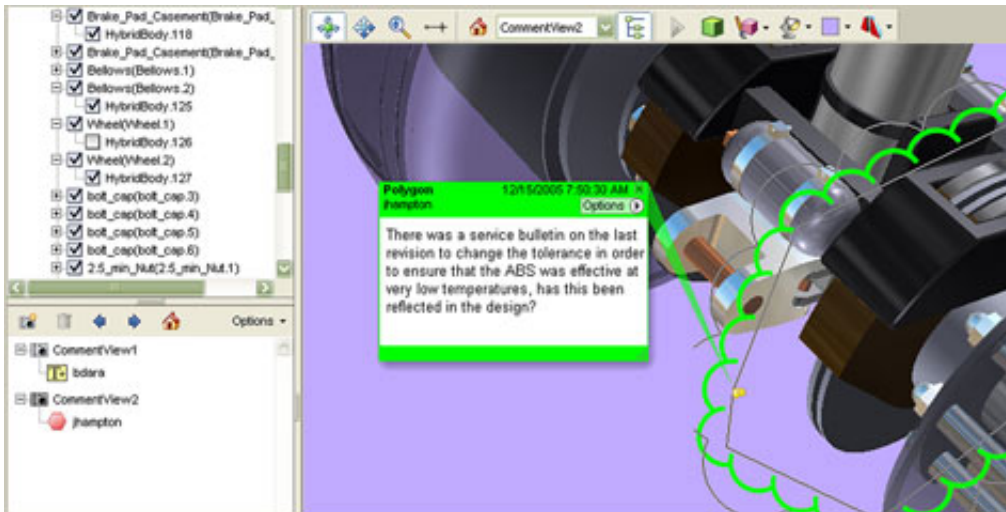
### Submit a Tip

Submit a manufacturing-specific trick or a tip for using Adobe Acrobat 3D to our editor. If we publish it, you'll win a free *Cadalyst* t-shirt.

### Request a Tip

Have a question about Adobe Acrobat 3D? Send it to Acrobat Insider; we'll try to address it in an upcoming issue.

pan, and zoom in or out of the 3D design. You can also change the lighting, render style, background color, and more. Others can manipulate the design in the same way using Adobe Reader 7.0.7.



Using Acrobat 3D, you can enable reviewers to add comments to 3D models. In this document, two reviewers have commented on two different views of the model.

**Customize the view** — Using the Model Tree, you can hide or isolate 3D model parts, create views that you can return to, and obtain metadata information. The Model Tree tab appears on the left side of the application window, in the same pane as the Bookmarks tab.

**Add and review comments** — You can enable others to comment on your designs using familiar red-line and mark-up tools in Adobe Reader.

**View cross-sections** — Displaying a cross-section of a 3D model is like cutting it in half and looking inside. Use the Cross-Section Controls dialog box to adjust the alignment, offset, and tilt of the cutting plane.

**Make measurements** — Use the Distance tool to measure the distance, angle, and radius of 3D models. You can also turn on annotation to view your measurements as comments.

**Add 3D content to Microsoft Word, Excel, or PowerPoint files** — Adobe Acrobat 3D adds a button to the PDFMaker Toolbar in Microsoft Word, Excel, and PowerPoint. Use this button to embed a 3D file in a document, slideshow, or spreadsheet. When you create an Adobe PDF document, users can interact with the 3D content from the original file.



Download a 30-day trial of Acrobat 3D.

[Download](#)



This Adobe PDF document includes a 3D model displayed in Adobe Reader. The 3D Toolbar, shown above the model in the lower left, enables the user to animate, rotate, pan, or zoom the selected model. You can also change the lighting, background color, and view.

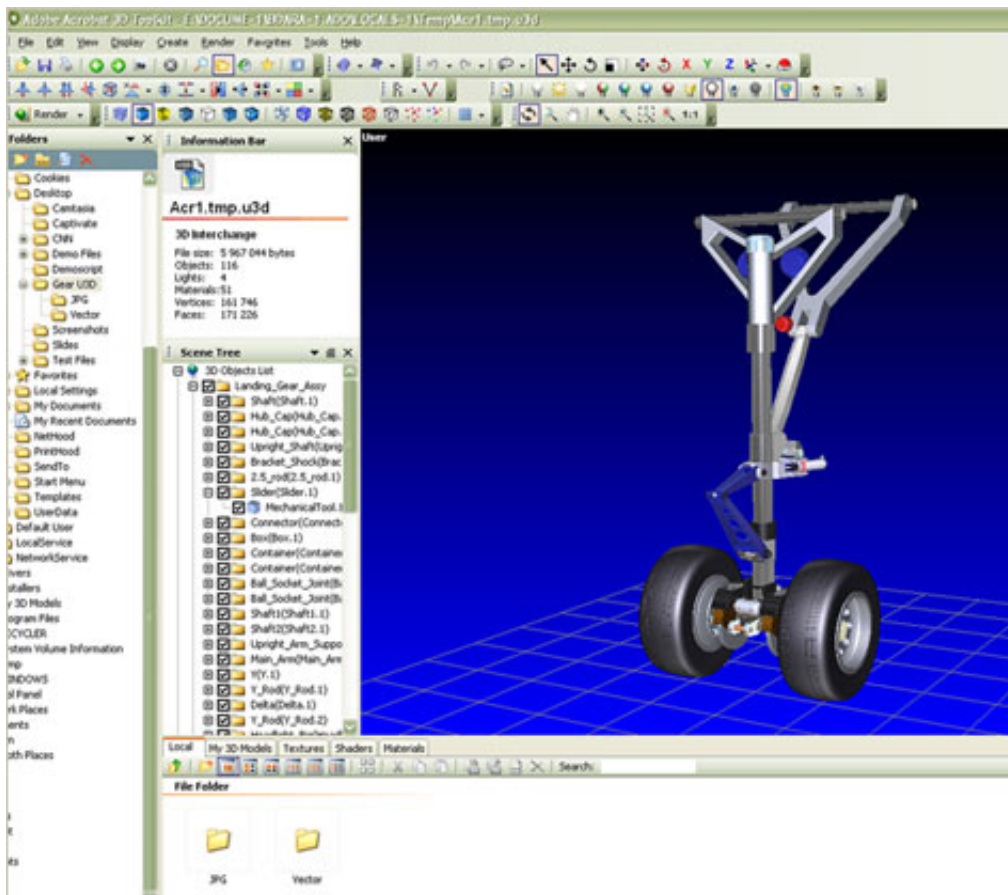
**Secure important information** — You can protect the information in your document by setting these parameters (provided by Adobe Document Services):

- **Confidentiality** — Controls who can access the document
- **Authorization** — Controls what someone can do with the document
- **Accountability** — Tracks what someone has done with the document
- **Integrity** — Shows whether the document has been altered

- **Authenticity** – Verifies the source of the document

### Adobe Acrobat 3D Toolkit

Adobe Acrobat 3D comes with a toolkit that allows you to edit 3D models. You can convert CAD, STEP, and other types of files, and then apply animations, lighting, and other manipulations to the imported designs. You can use CADTools to optimize 3D files for display and manipulation. Polygon reduction tools can significantly reduce the density of 3D models with minimal loss in visual definition, resulting in a more interactive performance and faster download speeds for Web-based 3D applications.



Acrobat 3D Toolkit includes a variety of tools for creating and editing 3D models.

CAD users will find useful tools for working with native or imported 3D geometry. With the CADTools Toolbar, you can perform a number of actions on selected objects or on the entire scene.

Here are all the CAD tools in the Acrobat 3D Toolkit:



**Invert Faces** — Inverts all faces



**Invert Normals** — Inverts all surface normals



**Invert Faces and Normals** — Inverts all faces and surface normals



**Unify Normals** — Aligns all surface normals to the same direction



**Remove Internal Parts** — Hides or deletes internal objects in the model



**Remove Small Parts** — Removes small objects from the model that matches the specified settings



**Separate Meshes** — Separates meshes



**Join Equal Points** — Joins all the points that have equal (coincident) x,y,z coordinates



**Reduce Model** — Reduces polygonal models to a smaller number of polygons



**Convert to Double-Sided** — Doubles the number of faces of all objects in the current file



**Explode Objects** — Displays all objects broken out from the model



**Color Objects** — Applies different colors to adjacent objects

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## Toolkit Tips and Tricks

### Enhance Animation by Editing Keyframes

After exploding objects, use the Edit Keyframes tool to move the individual objects along their axes at end of the animation or reposition them to enhance the animation.

### Eliminate Cracks and Holes

During reduction, cracks and holes may appear in a model if vertices that are different come near each other and the polygon count is low. Joining vertices can help remove cracks and holes by combining all vertices within a user-specified distance from one another. This option works equally well on large and small models.

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### About the Author

*Don LaCourse is the editor of [3DCADTips.com](http://3DCADTips.com), which offers more than 18,000 CAD and graphics resources including 8,000 tips and 5,000 tutorials. He is also a Cadalyst contributing editor and has spent the last 29 years working with and writing about CAD/CAM operations. He lives and works in Cookeville, Tennessee. Contact him at [don.lacourse@cadalyst.com](mailto:don.lacourse@cadalyst.com).*

**Details and Availability**

For a full list of features and system requirements, visit [Adobe's Web site](#). Microsoft® Windows® 2000 with Service Pack 2, Windows XP Professional or Home Edition, or Windows XP® Tablet PC Edition is required for use with Acrobat 3D. Acrobat 3D for Windows, available on CD-ROM or by download, is \$995.\*\*

\*\*Price listed is the Adobe Store direct price, and is listed in U.S. dollars. Reseller prices may vary. Price valid in the U.S. and Canada only. Applicable local sales tax and shipping may apply.

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