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Acrobat Insider for Manufacturing Professionals
Tips and Tricks for Adobe Acrobat 3D

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**TOGETHER AS ONE**

Solutions for manufacturing

Work better with the free Adobe Reader

Interact in 3D Designs Using Adobe Reader
You and your clients don't have to settle for 2D any longer

by Don LaCourse

If you're like me (and virtually all design professionals), you've been using the free Adobe® Reader® software for years to view and share text documents with embedded 2D images. Now, with Reader versions 7.0.7 and later, you don't have to settle for flat 2D anymore. You and your clients can view and interact with high-quality 3D content created from the major CAD applications. Best of all, it's still free!
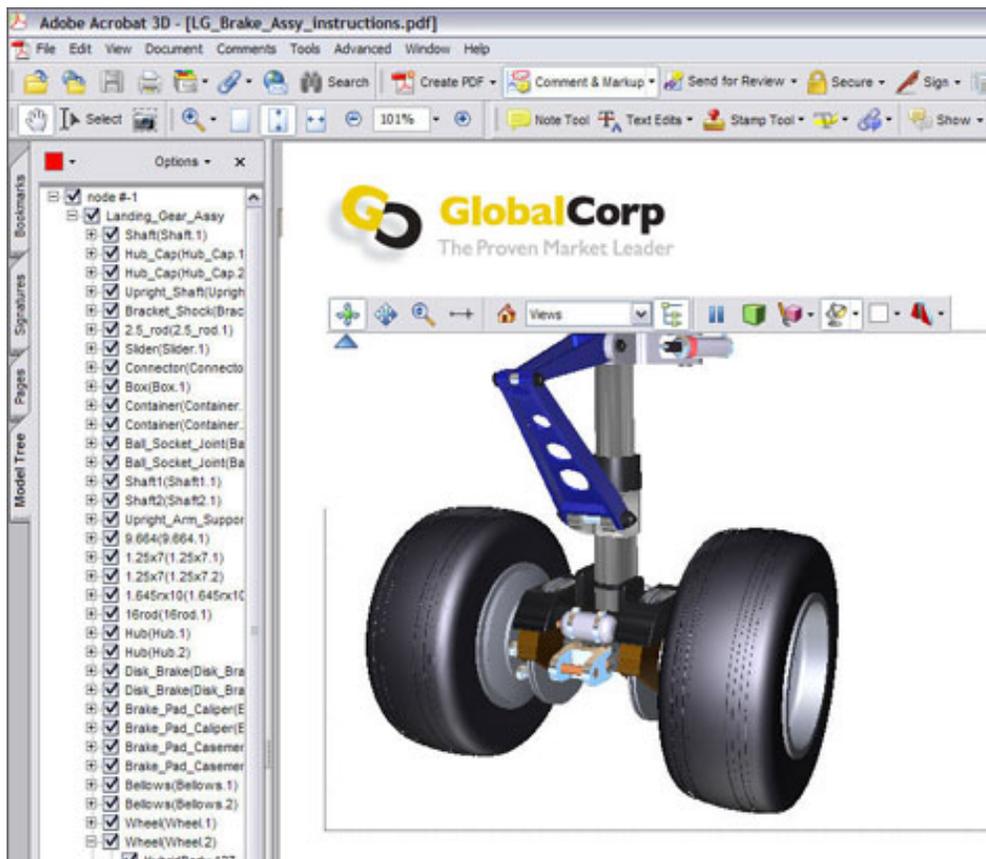
The Adobe Reader Version 7.0.7 and later includes tools to interact with 3D content from Adobe Acrobat 3D. The Navigation Tab allows you to view the Model Tree of the embedded 3D content.

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IN THIS ISSUE
Users of the free Adobe Reader 7.0.7 or later can view and interact with your 3D designs.

Subscribe here to receive subsequent issues of *Acrobat Insider for Manufacturing Professionals*, a monthly guide to Adobe Acrobat 3D.

NEXT MONTH
Introducing the 3D Toolkit! Learn how it can enhance the appearance and interactivity of your 3D designs.

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.


Adobe Reader version 7.0.7 and later includes 3D support. To add 3D support, start Adobe Reader and select Check for Updates Now from the Help menu, and then select the 3D package.

Let's take a closer look at what you can do with 3D support and how it can help you share your 3D designs with others.

More Navigation Tools

The first thing you may notice is that there are more tabs in the left pane of the Document window. A new tab call the "Model Tree" is available and shows the assembly tree with its associated components when you select 3D model content that has been embedded into the PDF using Acrobat 3D. Using the right-click menu, you can hide, isolate, or zoom to a component, or make it transparent. (You can also hide and show individual parts by selecting them in the assembly tree.)

This tab also contains saved views, view options, and other rendering attributes of the 3D content. Other tab sections include saved comments and their associated views, sectional views, and object properties.
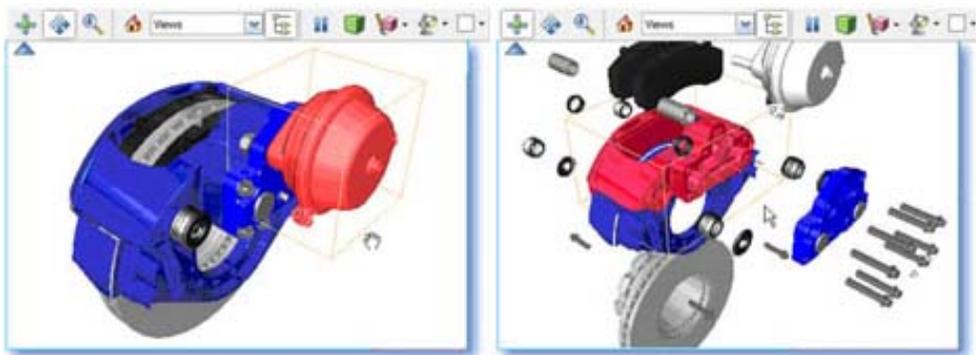
The Navigation tab contains saved views, view options and other rendering attributes of the 3D content.

> **TIP:** When you create Adobe PDF files using the Capture utility, the Model Tree is flat and not hierarchical. So it's a good idea to use the 3D Convert Tool to create the 3D embedded content if possible. That way, your viewers will see the hierarchy. (For more information on capturing vs. converting, see _Acrobat Insider for Manufacturing, Issue #2_.)

The 3D Toolbar

To interact with embedded 3D content in Reader, you use tools on the 3D Toolbar, which appears above an enabled 3D design. You can also select tools by right-clicking (Windows®) or Ctrl-clicking (Mac) the 3D content.

Using the 3D Toolbar, Reader users can perform the following actions on the embedded 3D content. 3D CAD users will recognize many of these features.

From left to right:

- Rotate

- Pan

- Zoom

- Measure using the Distance Tool*

- Go to the default view

- Change views

- Toggle the model tree

- Play and pause animation (if included)

- Change the view projection (orthographic and perspective)

- Change Render settings

- Change Lighting settings

- Change the background color

- Cross-section the part*

The features asterisked (*) above, as well as Commenting, Mark-up and Typewriter Tools, are available only if you enable them from within Acrobat 3D. See below for instructions.

> **TIP:** To encourage readers of your documents to interact with your 3D designs, add a text box near the design explaining how to display the 3D Toolbar and use the most common tools.

Collaborating on 3D Models

Previous versions of Adobe Reader contained the standard set of markup and commenting tools. In Version 7.0.7 and later, all of the tools on the Comment and Markup menus can apply to 3D content, making it easier for clients and colleagues to provide key input on your 3D embedded models.
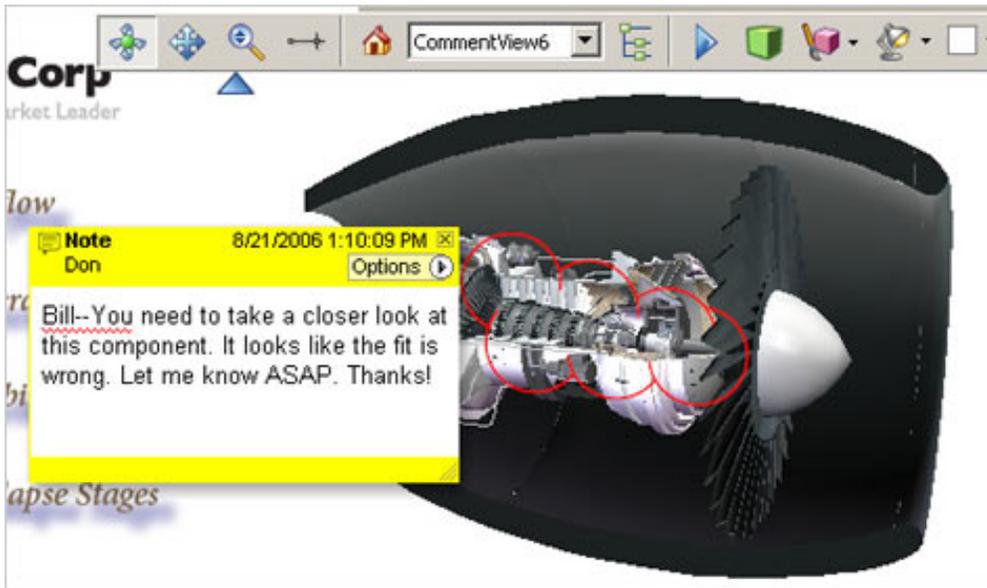
Using Adobe Reader 7.0.7 software, you can collaborate with colleagues on 3D design models using standard comment and markup tools.

To allow Reader users to add comments, you need to enable commenting and analysis with Acrobat 7.0 Professional or Acrobat 3D. Otherwise, these tools aren't available from within Reader. See below for instructions.

Measuring 3D Models

Anyone using the new Adobe Reader can now measure part and assembly geometry. You can help reduce costly phone calls and save time by allowing your sales staff, customers, vendors, assembly line managers, and other colleagues to measure 3D embedded models and query the parts themselves. With the 3D Measurement Tool, they can check distances, radii, and angles. They can also position the cursor and get its location in model space.
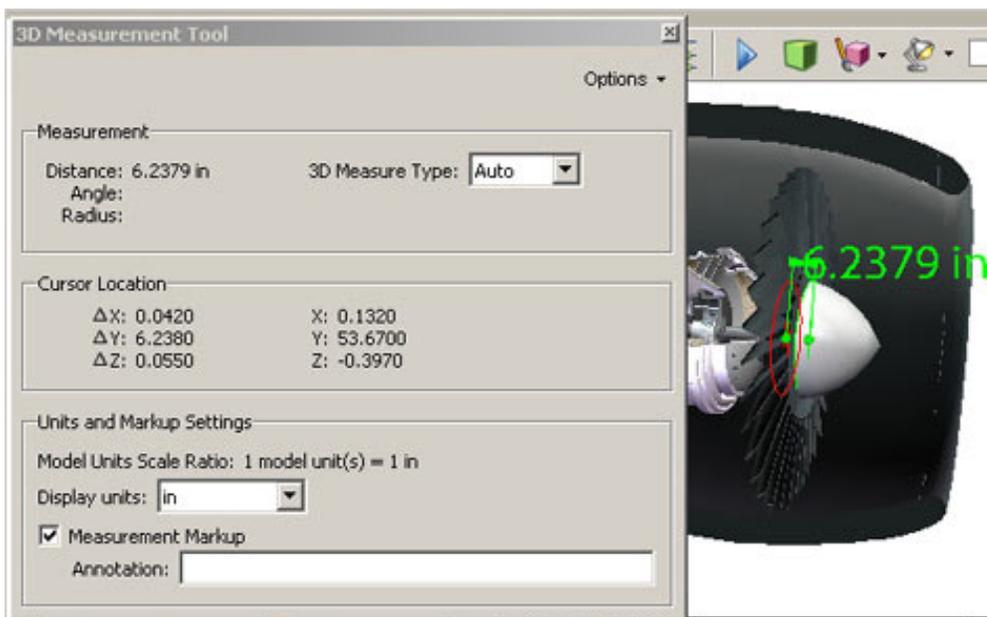
New in Version 7.0.7 of the Adobe Reader is the 3D Measurement Tool. You can measure distances, radii, and angles. You can also add comments to dimensions for collaboration.

To make the 3D Measurement Tool available to Reader users, you need to enable commenting and analysis using Acrobat 7.0 Professional or Acrobat 3D. See below for instructions.

> **TIP:** Add instructions in your PDF document explaining how to use the Measure Tool to let people know about this feature.

Cutting Cross-Sections

A really cool new feature now available to Reader users is the Cross Section Tool, which is on the 3D Toolbar if you've enabled it. It allows you to cut through the part or assembly at the A, Y or Z plane or aligned to any face. You can also offset, tilt, and flip the cutting plane. Best of all, you can cut a cross-section and then measure from any point on the section boundary curves. There are many cross-section tools available. And coupled with the 3D Measurement Tool, the Cross Section Tool enables you to analyze virtually any distance from any point on any geometry.
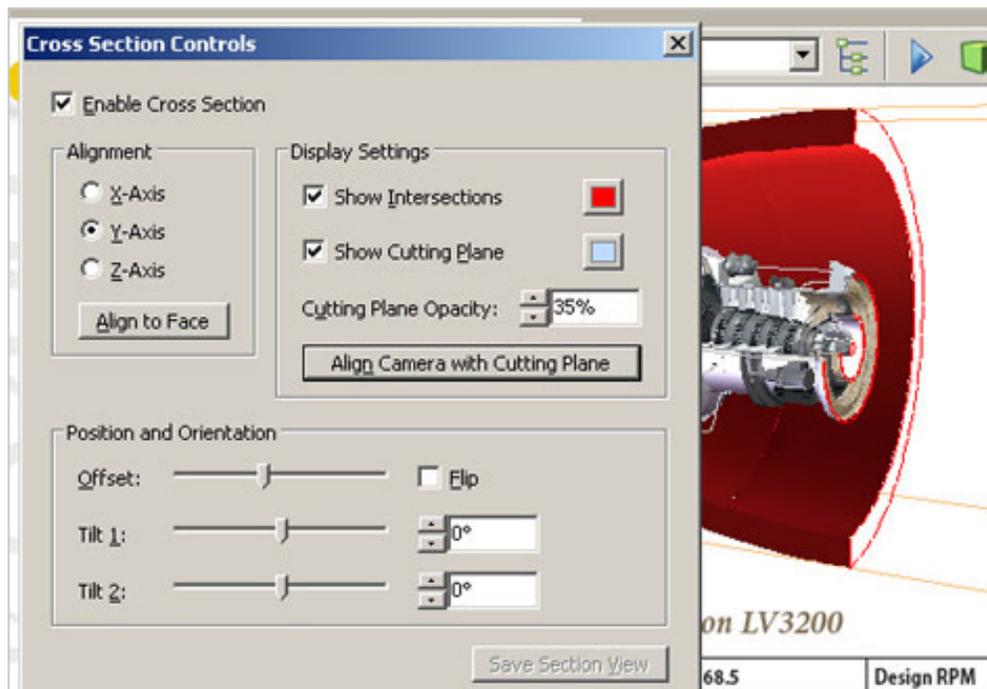
The Cross Section Tool allows you to cut through the part or assembly at the A, Y, or Z plane or aligned to any face. You can also offset, tilt, and flip the cutting plane.

To make the Cross Section Tool available to Reader users, you need to enable commenting and analysis using Acrobat 7.0 Professional or Acrobat 3D. See below for instructions.

Enabling Features for Use in Reader

Before sharing your Adobe PDF with others, make sure to enable all the functionality in Acrobat 7.0 Professional or Acrobat 3D. Otherwise, Reader users won't be able to use some of the tools we've covered here, including the following:

Features that require enabling for use in Reader:

- 3D Measurement Tool
- Cross-section Tool
- Typewriter Tool
- Mark-up and commenting tools (such as notes and stamps)
- Saved views
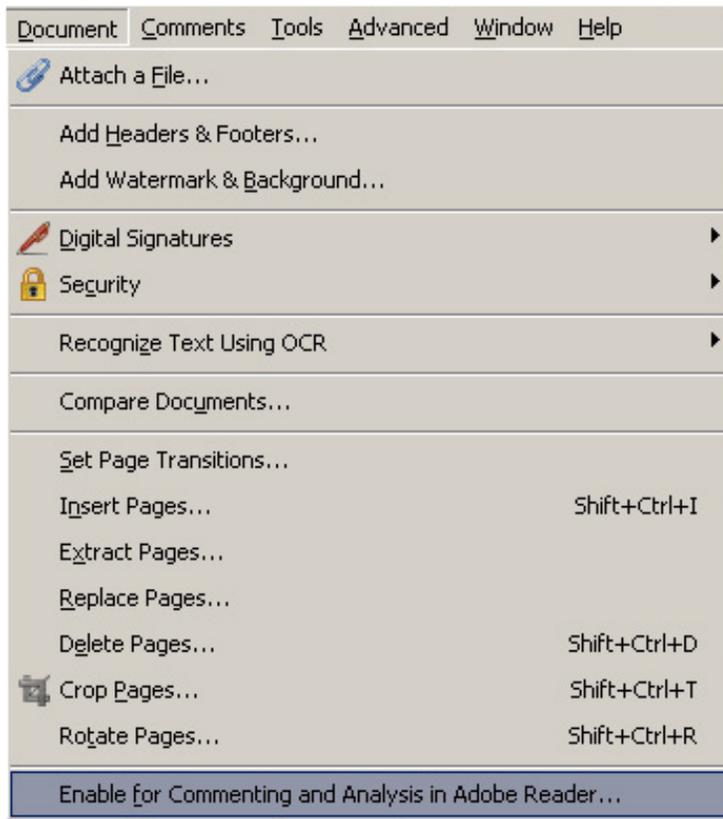
To enable features in Reader, select Enable for Commenting and Analysis in Adobe Reader on the Documents menu.

To enable these features:

1. Open the source document in Acrobat 3D.

2. From the Document menu, select Enable for Commenting and Analysis in Adobe Reader, and then click OK.

You can also use the Enable for Commenting in Adobe Reader command (Comments menu) or select the option when you use the wizard to send a document by email.

Wrap Up

The new Adobe Reader 7.0.7 software goes far beyond any previous version. The tools for manipulating and analyzing embedded 3D models make it an easy choice for CAD and other design professionals, technical illustrators, and virtually anyone who needs to interact with 3D geometry.

New to *Acrobat Insider for Manufacturing*? Have you missed past issues? **Visit the archives** to catch up on all six previous issues.

About the Author

Don LaCourse (don.lacourse@cadalyst.com) is the Editor of 3DCADTips *(www.3DCADTips.com), a site with over 23,000 CAD and Graphics resources including 10,000 tips and 6,000 tutorials including Adobe Acrobat! Don is also a* Cadalyst *Contributing Editor and has spent the last 29 years working with and writing about CAD/CAM operations. Don lives and works in Cookeville, Tennessee.*

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.**