

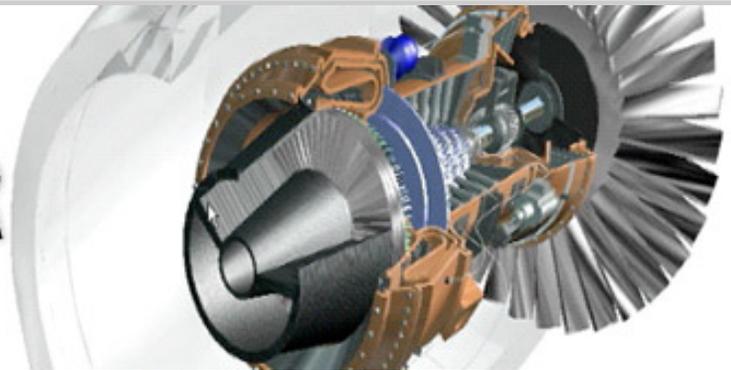
Acrobat[®] Insider for Manufacturing Professionals

Tips and Tricks for Adobe[®] Acrobat 3D

Brought to you by **cadalyst**

[Cadalyst Manufacturing](#)[Adobe Acrobat 3D](#)[Acrobat Insider Archives](#)[Subscribe](#)

Take a look. **CLOSER**



Get Your Designs Moving

Using Acrobat 3D Toolkit to create animations and exploded views

by Robert Green

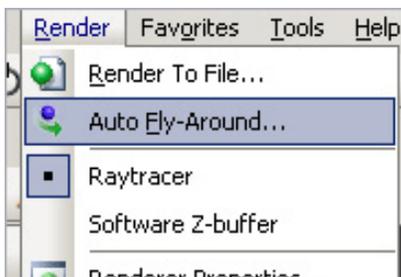
In the last two issues of [Acrobat Insider](#), I explained how technical documentation professionals can use Adobe[®] Acrobat[®] 3D Toolkit to leverage existing engineering CAD data to prepare illustrations like line art and renderings without having to depend on engineering CAD users. In this issue, I'll continue the illustration discussion as I show how you can create animations and exploded views to clearly convey mechanical assembly concepts.

Get Ready, Get Set

To begin your animation or exploded view project, first start Acrobat 3D Toolkit and load in the assembly you want to work with using the methods we learned in the last issue. Once you open the parts/assemblies you want to include in the illustration, be sure you also open the Scene Tree (so you can see all the parts) and save your assembly in U3D (Universal 3D) file format to consolidate all assembly parts into a single compressed file.

Note: If you didn't read the last issue, or would just like a quick review of these concepts, see the January ([Issue #9](#)) issue of *Acrobat Insider*.

Take a Quick Fly-Around



To get a feel for the graphical resolution and motion rendering capabilities of 3D Toolkit, start out with the Auto Fly-Around tool (Render menu), which creates a video as though a camera were flying around the entire scene. Using the Render Auto Fly-Around dialog box,

MARCH 2007

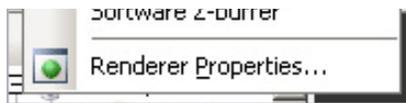
[Subscribe Here](#)

[DOWNLOAD FREE
ACROBAT 3D UPDATE
NOW!](#)

This free downloadable executable contains several updated dynamic link libraries (DLLs) that provide support for more recent versions of CAD file formats when using Adobe Acrobat 3D and the 3D Toolkit. [Click here to download the update.](#)

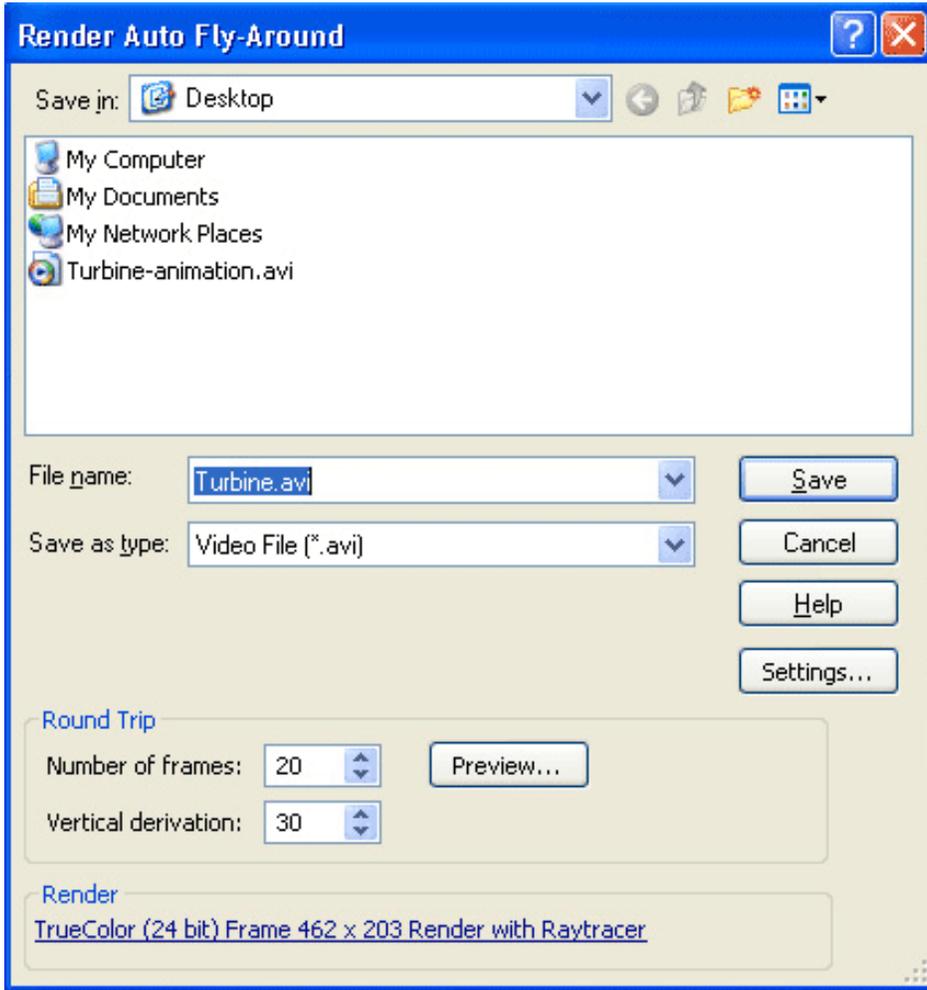
IN THIS ISSUE

Creating animations and exploded views for technical documents with Acrobat 3D Toolkit.



you can control the number of frames to be rendered, color (24 bit by default), window size (640x480 by default), and render method (typically a color raytrace analogy).

The last step is to choose the file format (I've used AVI in my example) and click Save, which triggers the rendering process. To view the resulting fly-around animation, simply open it with an appropriate viewer like QuickTime or Windows® Media Player.



Set your frames, color parameters and file format and then wait a few minutes for your fly-around to be completed.

In my example part I was able to generate a very nice AVI file that weighed in at a compact 1.8 MB in less than 5 minutes on a single-processor Pentium® machine with 1 GB of RAM. The AVIs produced by the Auto Fly-Around command do a very nice job conveying what an assembly looks like from all vantage points using normal lighting. And while this quick animation isn't what you'd use for marketing or presentation-quality graphics, the ability to create a motion-based fly-around in a matter of minutes with no setup is compelling.

In fact, even engineers should appreciate the immediacy and efficiency of this tool. The side benefit is that once you've taken a few minutes to explore the Auto Fly-Around command, you'll be familiar with the dialog boxes and controls

[Subscribe here](#) to receive future issues of *Acrobat Insider for Manufacturing Professionals*, a monthly guide to Adobe Acrobat 3D.

NEXT MONTH

Pairing Acrobat 3D with Microsoft Word and PowerPoint to create compelling documents and presentations.

ANIMATION TUTORIAL

Watch a tutorial on creating keyframe animations in 3D Toolkit. (Requires Flash® Player.)

And don't miss the other 3D Toolkit tutorials on importing and the new user interface. (Scroll down [this page](#) to "Acrobat 3D toolkit tutorials" and click "Watch the movie" under "Basics of animation.")

SHARE YOUR TIPS

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

Or if you have a question about Acrobat 3D, ask us and we may address it in an upcoming issue.



Download a 30-day trial of Acrobat 3D.

used by the more advanced animation commands, which we look at below.

Cool tip: Want to crank out a variety of high-quality images? Use Auto Fly-Around and pick a still-image format like JPEG in the Render Auto Fly-Around dialog box. The command creates a collection of still images from all the same vantage points it would normally use in animation mode.

Customize Your Animations with Keyframes

Now that you've got an idea of what animation in Acrobat 3D Toolkit can look like, you'll want to try some custom animation on your own. The process involves "keyframing" — building an animation timeline that works with motions you define in the model. Here's a summary of what you do:

1. Turn on the keyframe recorder.
2. Define the elapsed time intervals for the animation.
3. Define the parts to animate.
4. Run the animation to check your results.



Turning on the KeyFrame recorder is easy enough to do. Simply click the Edit KeyFrames Tool on the 3D Edit Toolbar and verify that the time/frame slider appears in the bottom of the window.

This slider shows how many frames of animation will be created for each motion you define in the animation. To define time intervals, move the slide to determine the number of seconds/frames that are allocated for each animation.



The time/frame slider appears when you click the Edit Keyframes Tool. By moving the slider you define the time/frames that will be allocated to each animation you create.

Next, select the items you want to put in motion. You may either select the parts by name in the Scene Tree or click them in the graphical window, whichever is more intuitive for the operation. Once the part(s) are selected, move the time/frame slider to set the record point. Then use the Move Tool to display vectors and select the parts for moving, and drag the parts to their stop point in the animation, as shown below.

[Download](#)

GET MORE OUT OF ACROBAT!

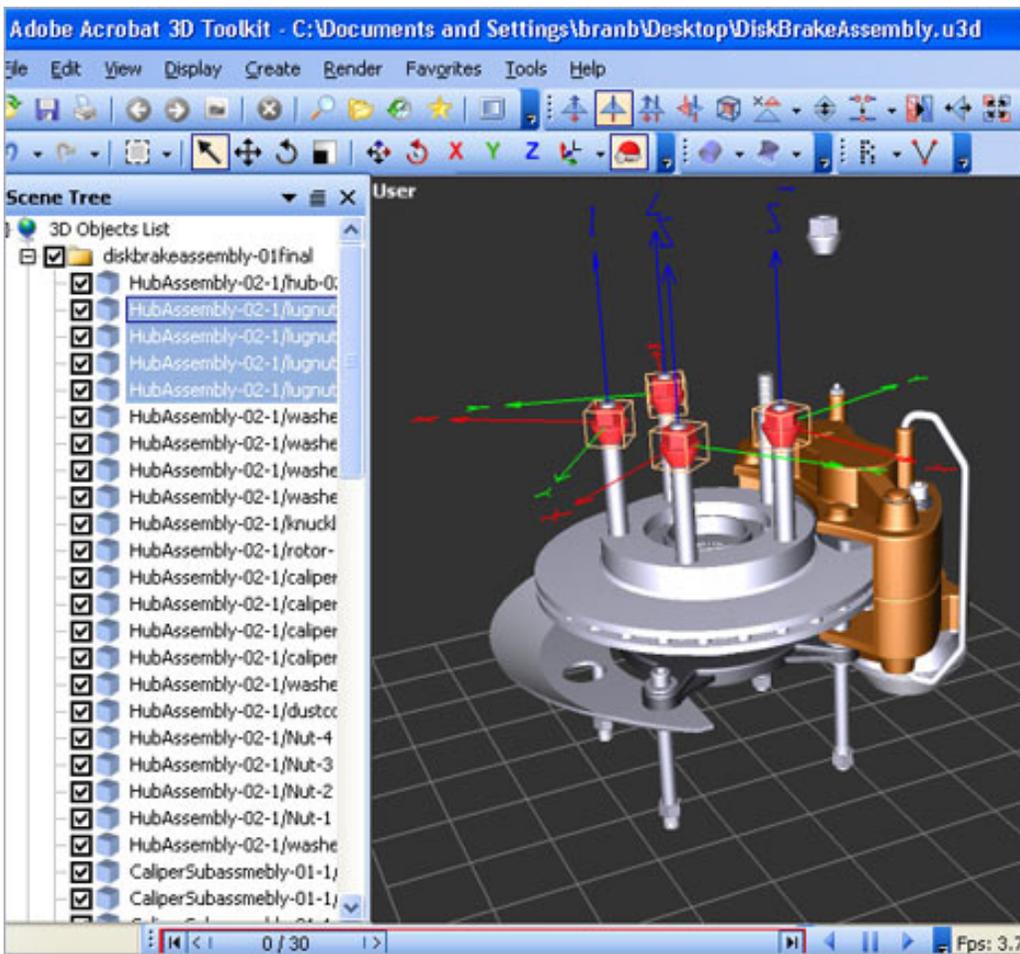
Bookmark AcrobatUsers.com and benefit from the insights and opinions of leading Acrobat and PDF experts.

Visit the [Acrobat 3D User Community blog](#) for musings on Acrobat 3D, 3D visual communication, and 3D collaboration.

And don't miss the blog dedicated to [Adobe solutions for manufacturers](#).

FREE UPGRADE TO V. 8

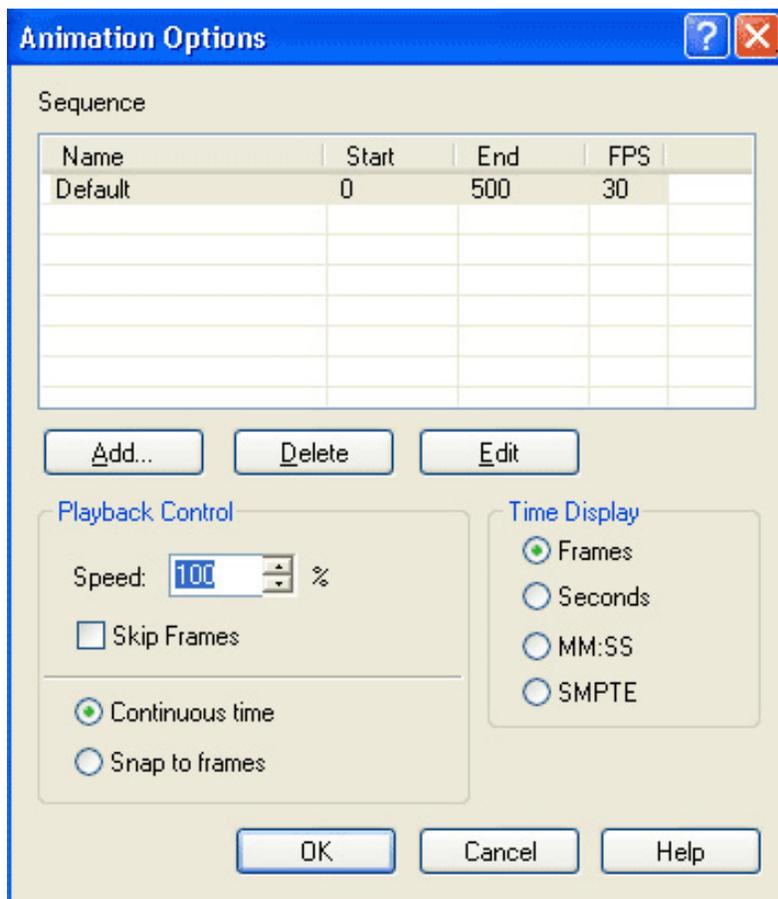
Adobe Acrobat 3D Version 8 software will be available in spring 2007. Purchase the current version of Acrobat 3D (Version 7.0), and receive a free upgrade to Version 8. [Click here](#) to learn more.



Select the parts to move and use the Move Tool to display the motion vectors. Select the vectors and drag the parts to the stop point of the animation.

Cool tip: Use the F11 key to toggle between full-screen graphics (when you're using the Move Tool) and normal mode (for working with the keyframing commands).

Your final step is to review your animation. Simply use the play, rewind, and pause controls in the time/frame slider. You can add more motions to your animation by using the Animations Options dialog box (to display it, click the down arrow at the end of the time/frame slider). To add more sequences, simply repeat the keyframe and move steps as described above.



The Animation Options dialog box allows you to create animations with multiple motions, delete bad motions, or even edit mistakes by using the Add, Delete, and Edit buttons.

The animation process actually becomes very intuitive after you explore it a bit and make a few mistakes. I recommend starting with a simple assembly for your first animation and use no more than three keyframe settings to evaluate the process. Given that experience, you'll be able to gain confidence quickly and move to more challenging animations.

Cool tip: If you'd prefer to think of your animations in terms of elapsed seconds instead of frames (the default), select the Seconds option under Time Display in the Animation Options dialog box.

Try an Exploded View

If you really want to get your hands dirty with keyframe animation techniques, try to fully explode an assembly and then play the animation in reverse to show the parts reassembling. This was the first real problem I tackled with Acrobat 3D Toolkit, and I was able to get the job done in about 30 minutes. Believe me when I say I'm not an animator! So if I can learn it, so can you.

Summing Up

In the last several issues of *Acrobat Insider*, I've shown you some features of Acrobat 3D Toolkit that enable you to use existing engineering CAD information to create compelling illustrations, animations, and other visualizations on your own, without depending on CAD experts. I hope you have found the information useful and will take some time to explore the features we've discussed. And if you have a tip for using Acrobat 3D Toolkit, [email it to me](#) to share with other manufacturing professionals here in *Acrobat Insider*.

Next Time ...

In the next issue of *Acrobat Insider* I'll explore how to bring your 3D designs into Microsoft Word and then publish the final document as a PDF. I'll also discuss how you can use Acrobat 3D to showcase different views of your design in a Microsoft PowerPoint slide show.

New to *Acrobat Insider for Manufacturing*? Have you missed past issues? [Visit the archives](#) to catch up on previous issues.

About the Author

Robert Green (rgreen@greenconsulting.com) performs CAD programming and consulting throughout the United States and Canada. He is a regular contributor to *Cadalyst* magazine. Robert lives in Atlanta, Georgia.

Details and Availability

For a full list of features and system requirements, visit the [Adobe 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.**

*Supplies are limited; one t-shirt per person. Offer subject to change without notice.

**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.

Copyright © 2007 by Questex Media Group. Reproduction or distribution in whole or in part without written permission is prohibited.

Adobe, the Adobe logo, Acrobat, the Adobe PDF logo, and Flash are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries. Pentium is a trademark or registered trademark of Intel Corporation or its subsidiaries in the U.S. and other countries. Windows and Windows XP are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. All other trademarks are the property of their respective owners.

Unsubscribe: This is an advertising message from Adobe Systems Incorporated, its affiliates and agents ("Adobe"), 345 Park Avenue, San Jose, CA 95110 USA. If you'd prefer not to receive email like this from Adobe in the future, please respond to this email and include "Unsubscribe" in the subject line or send an email to unsubscribe-na@adobe.com.

Alternatively, you may mail your unsubscribe request to:

UNSUBSCRIBE
Adobe Systems Incorporated
P.O. Box 2205
Beaverton, OR 97075

Your privacy is important to us. Please review Adobe's online Privacy Policy by clicking here: <http://www.adobe.com/misc/privacy.html>.