



CADIQ 3D PDF Reports

CADIQ® CADIQ 6.0 was released in January 2009 and is the latest edition of ITI TranscenData's innovative 3D CAD model validation and product data quality product. CADIQ identifies potential shape and fit problems and compares differences between 3D CAD parts and assemblies. These quality issues and introduced changes often affect reusability of engineering data in downstream processes such as analysis, manufacturing and data migration. CADIQ's production tested validation functionality allows users to accurately compare geometry, topology, feature definitions and assembly product structure. Validation can be performed between multiple CAD models and leads to a deeper understanding of a company's CAD system revision, data exchange, legacy CAD data remastering, feature based translation or product configuration processes.

CADIQ Adobe 3D PDF File Support

Starting with the 6.0 release, there are a number of ways that users can take CADIQ Analysis and Viewer results and publish these into the 3D PDF Report format. 3D PDF is developed by Adobe and includes full CAD and Product Structure data from most major CAD formats. This Adobe functionality allows ITI to enhance CADIQ to generate 3D PDF's that enable distribute of the CAD model with diagnostic results and viewing controls. Users that may not understand or even use CADIQ now have access to CAD Model Quality or Validation results in order to access critical validation information. CADIQ Results can be published to a 3D PDF for quality validation or side-by-side views for comparison validation.

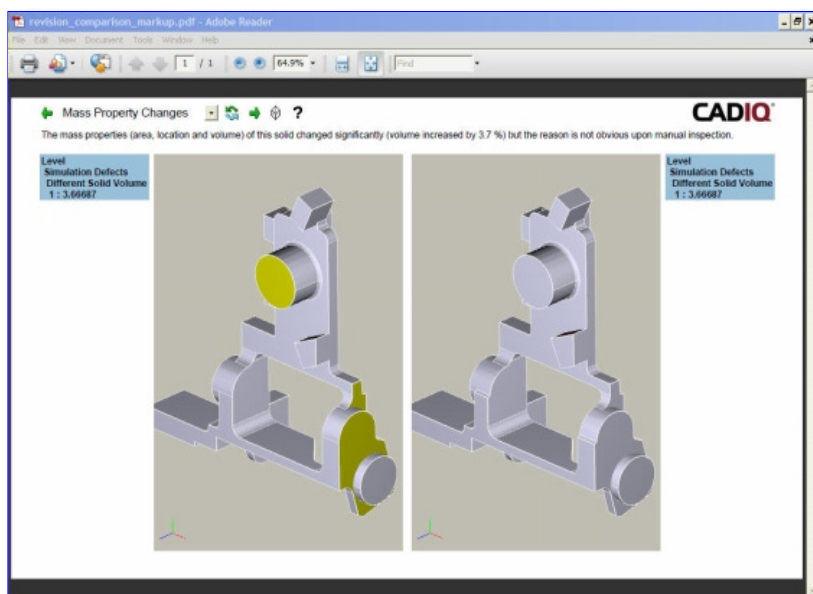


Figure 1: Side-by-side Adobe 3D PDF for Revision Comparison Validation

CADIQ users can generate 3D PDF Reports through automatic generation during a CADIQ Controller/Analysis session or from within the CADIQ Viewer. CADIQ viewer users create custom views that mark-up an active session and capture the 3D Model, viewpoint, diagnostics, diagnostic markers and comments associated with custom diagnostic views. These custom views are then created within the PDF report.

Opening a 3D PDF Report

In order to open the CADIQ created 3D PDF report, simply select and open the PDF file or start the Adobe Reader or Acrobat product and then use the "File...Open" menu selection to open the PDF file. There is nothing different or special about the CADIQ created 3D PDF Reports and how Adobe products would open them. The only requirement is that the Adobe products support Version 8.1.2 or later of the PDF format.

CADIQ Adobe 3D PDF Report Mouse/Keyboard Controls

CADIQ created 3D PDF Reports are standalone entities that can be controlled through the normal mouse and keyboard controls provided by the 3D PDF format. Some of these controls include:

- Left Mouse Button Use Only Options:
 - **To Pan:** Hold the Control Button and the Left Mouse Button together while moving Mouse
 - **To Zoom Camera:** Hold the Shift Button and the Left Mouse Button together while moving Mouse up and down
 - **To Rotate Model:** Hold only the Left Mouse Button down while moving the Mouse
- Pan (translate) camera additional option:
 - Press the Left and Right Mouse Buttons at the same time while moving the Mouse

- Zoom camera in/out:
 - Rotate Mouse Wheel Forward/Backward or...
 - Press the Right Mouse Button and Hold while moving Mouse Up/Down.
- To Zoom in on a rectangular area of the screen:
 - Press Control Key and Right Mouse Button and stretch out a rectangular area to zoom in on

Viewing Options within the 3D PDF Report

There are a number of options within the CADIQ generated 3D PDF Reports that allows users to understand validation issues with 3D CAD Models. Examining these CADIQ diagnostic results is done through a combination of the menu options at the top of the 3D PDF report, the ability to dynamically view the 3D PDF files via the mouse/keyboard commands and through the review of attachments to the 3D PDF Report.

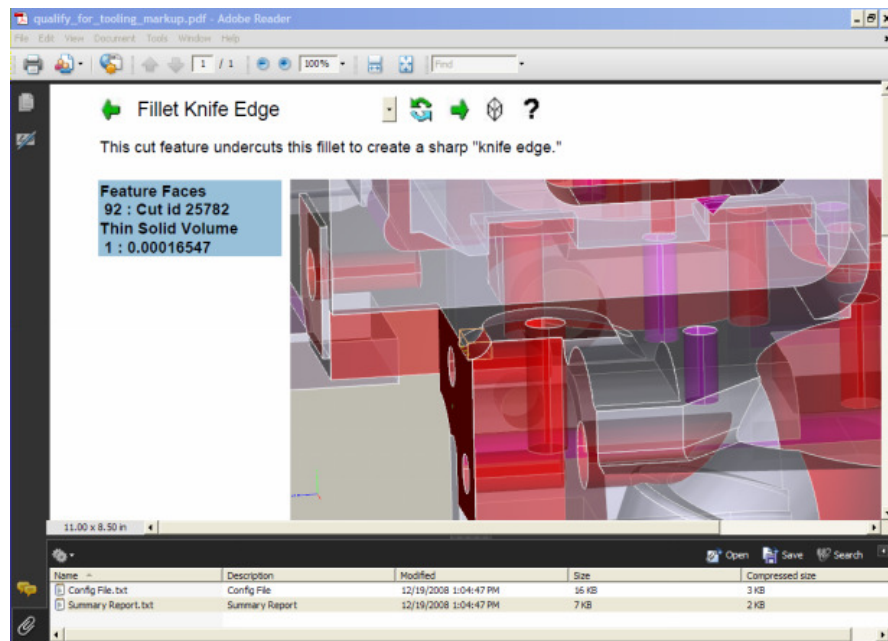


Figure 2: CADIQ 3D PDF Report Menu Choices for navigation

In Figure 2, the full menu is shown along with attached files associated with the analysis. In this case, the custom view "Fillet Knife Edge" being displayed with the blue diagnostic summary on the left outlining the associated feature if it exists. Additionally the diagnostic and it's warm or hot value is shown along with the custom view comment displayed below the custom view name.

In moving from left the right across the top of a typical 3D PDF Report, these control options include:

- **Activate Previous View:** This left pointing green arrow returns the user to the previous Custom View in the list. This will automatically refreshed the display and diagnostic information
- **Current Diagnostic Name:** The current custom view of "Fillet Knife Edge" is shown
- **Custom View Drop down Menu:** By selecting this, users will see all custom views to choose from and a particular custom view can be selected for activation. Note that after selecting, the user will then need to Activate this Custom View
- **Activate View:** When selecting a custom view from the drop down menu, the image and diagnostic will need to be refreshed using this button. The popup name will dynamically change to activate for the current custom view such as "Activate Fillet Knife Edge"
- **Activate Next View:** This right pointing arrow will move users to the next Custom View in the list. This will automatically refreshed the display and diagnostic information
- **Toggle Transparency View:** This option will toggle the ability to view transparency in the 3D CAD model.
- **CADIQ PDF Report Help:** This will open the current page you are reading at the ITI TranscendData web site.
- **CADIQ:** Selecting the CADIQ Icon in the upper right will open the [CADIQ Product](#) web page

Attached CADIQ Analysis Reports

The attached files associated with a Quality Analysis 3D PDF Report (single-view) will contain the analysis configuration and summary reports. Comparison (multi-view) PDF Reports have the configuration and summary reports attached for each view.

General 3D PDF Reporting Options

In addition to the CADIQ specific options that have been embedded within the PDF report, users have full access to the wealth of general viewing and control options that are available to all users of Adobe 3D PDF files. By using the Right Mouse menu option and selecting a view of the PDF report in Figure 3 below, a CADIQ specific option has been enabled to choose a custom views. In addition to the custom views, there are a number of other viewing options that can be activated via the Right Mouse menu that are general for most 3D CAD models such as part display options, view tools, model tree display and more.

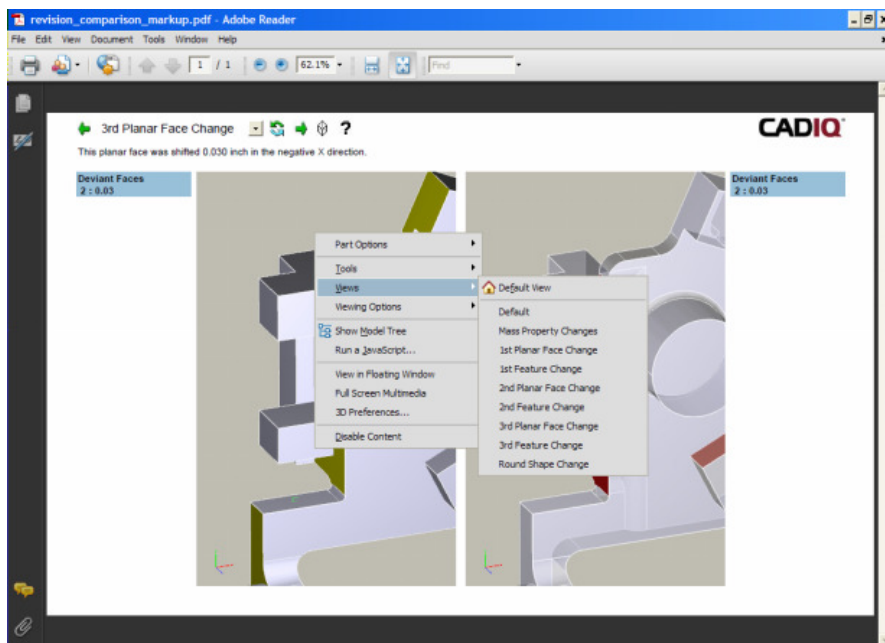


Figure 3: Adobe 3D PDF menus options with CADIQ specific Custom View List

Adobe Reader vs. Adobe Acrobat Capabilities

The majority of the functionality that has been defined in this discussion focused on the PDF Reports that have been created by CADIQ and functionality that was CADIQ and/or 3D CAD Model specific. Going beyond CADIQ based 3D PDF reports, there is another layer of functionality available from the main menu of PDF files including File Support, Document Security and other capabilities. Availability of these menus will be very company specific depending on installation, configuration and user controls for PDF usage.

Finally, a majority of this discussion has been focused on what is available to users viewing 3D PDF Reports with the freely available Adobe Reader product. CADIQ generated PDF Reports can also be opened with Adobe Acrobat for further editing, mark-up, attachments and more options such that core CADIQ 3D PDF Report capabilities can be combined with with company specific reporting needs. Once a 3D PDF report has been enhanced via Adobe Acrobat, it can be saved and opened by users of the Adobe Reader product.

For More information about the Adobe Acrobat 3D Solutions for Manufacturing:

http://www.adobe.com/manufacturing/3d_solutions.html

CADIQ Customers

A sampling of customers using ITI TranscenData's CAD Model Quality and Validation solutions includes programs for leading manufacturers: **Airbus, Boeing, FORD, Honeywell, Lockheed Martin, NASA, P&H Mining, Samsung, Snecma, Spirit Aerosystems, Raytheon, Rockwell Collins** and more. For a better understanding of the value ITI has provided to these customers, please see [Benefits to working with ITI and CADIQ](#).

Downloadable CADIQ Overview Brochures

- [CADIQ 1 Page Overview Brochure \(0.3MB PDF\)](#)
- [CADIQ Functional Overview Presentation \(1.0MB PDF\)](#)

Other CADIQ or Validation Related Discussions

This page was intended to overview the CADIQ Adobe 3D PDF Reports. Other discussions related to CADIQ and Validation at the TranscenData web pages include:

- General overview of the [CADIQ Software Product](#)
- CADIQ applied from a *solution* perspective at [Product Data Quality and Validation Solutions](#)
- Specific customer application *scenarios* at [Validation Scenarios](#)

CADIQ Support

For CADIQ support, FAQ's, detailed specification and overview documents, please see the [CADIQ Support Page](#)