

Autodesk® Design Review 2010

User's Guide

Autodesk®

January 2009

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Getting Started

1

- [About Design Review](#) on page 1
- [What's New in Design Review 2010?](#) on page 3
- [Get Help with Design Review](#) on page 4
- [Join the Customer Involvement Program](#) on page 6

This Help file was last updated 7 January 2009.

About Design Review

Autodesk® Design Review is a free program used for creating and reviewing DWF files. An open, published, and secure file format developed by Autodesk, DWF enables you to combine and publish rich 2D- and 3D-design data and share it with others.

Design Review enables your entire project or product team to view, print, measure, and markup DWF, DWG, DXF, PDF and raster files containing 2D and 3D content. Fully integrated with AutoCAD®, Inventor®, and Revit®, Design Review helps you easily share drawings, models, maps, and design data with team members, clients, consultants, contractors, partners, suppliers, and other reviewers who may not own or know how to use design software.

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About DWF and DWFX

A DWF file can be used to organize sheet sets, models, animations, finite element analyses (FEA), and map information, as well as other project-related files, into a single, highly compressed file. Together with Design Review, DWF files help you enhance collaboration by clearly communicating information, such as design changes or corrections, all while reducing the printing and shipping costs associated with distributing paper copies to your extended team.

Much like Adobe® PDF files, DWF files are no more alterable than printed paper copies. Unlike PDF files, however, DWF files retain detailed design information and scale, and are therefore more suitable for architects, engineers, and designers.

The newest version of the DWF file format, DWFX, is based on the XML Paper Specification (XPS) from Microsoft. DWFX makes it easier to share design data with reviewers who cannot install software.

DWFX files can be opened and printed instantly using the free Microsoft XPS Viewer, which comes pre-installed on computers using the Microsoft Windows Vista® operating system. (For the Windows XP operating system, the Microsoft XPS Viewer can be downloaded directly from Microsoft.) Unlike DWF files, DWFX files include additional information to display design data in the Microsoft XPS Viewer. As such, DWFX files are larger than corresponding DWF files.

TIP In Design Review, you can choose between DWFX and DWF as the default file format on the General tab in the Options dialog box.

Currently, the Microsoft XPS Viewer does not support sheets containing 3D content, password-protected content, object properties, restricted content, or georeferenced map coordinates. In the Microsoft XPS Viewer, when attempting to view sheets DWFX files containing any of these unsupported features, a warning directs you to download and view the DWFX file in Design Review.

NOTE All references to DWF in this documentation implicitly include DWFX, unless specified.

A Digital Design Workflow

Most DWF files begin as a drawing or model created in such Autodesk programs as AutoCAD, Inventor, and Revit. Before a DWF file is published, the person publishing the DWF file determines which features (model, layouts, layers, blocks, named views, and so on) are included in the published DWF file. Once

the content has been determined, the designer publishes the file from its original format to a DWF file and sends the DWF file to the review team to begin the digital design review process.

- **Receive.** Reviewers get the DWF file from the publisher and open it in Design Review to verify the content (a 2D drawing, 3D model, or image).
- **Review.** Reviewers add digital comments and markup to the DWF file using callouts, text, shapes, dimensions, stamps, and custom symbols, saving changes to the DWF file.
- **Return.** Reviewers send the marked-up DWF file back to the original publisher.
- **Revise.** The designer uses the publishing software to import the marked-up DWF file, referring to comments in context to revise the original design quickly.
- **Republish.** After revising the original content in the publishing software, the designer republishes an updated DWF file, a new sheet set, or model, to begin the digital design workflow again.

The digital workflow can be repeated indefinitely to support the iterative nature of the design and review process.

See also:

- [Open Files](#) on page 45
- [Save DWF Files](#) on page 227
- [Select a Default File Format](#) on page 268
- [Get the Microsoft XPS Viewer for Windows XP](#) on page ?

What's New in Design Review 2010?

The following features have been added or enhanced.

- 1 **Enhanced user interface.** Design Review now has a more [intuitive, task-based look](#), consistent with other Autodesk products.
- 2 **Enhanced DWG viewing experience.** Use Design Review to [open and view](#) DWG files.

- 3 **Highlighters.** Use the [highlighter markup tools](#) to draw attention to the desired information.
- 4 **Enhanced line formatting options.** Change [line patterns](#) and [line start and end styles](#) to modify the appearance of your markups.
- 5 **Save Markups Summary.** Design Review can now save a [summary](#) of all DWF file markup properties to a CSV file.
- 6 **Digital signatures.** To help secure your data, you can now [digitally sign DWFX files](#).
- 7 **Open PDF files.** From within Design Review, [open a PDF file](#) and save it as a DWF file.
- 8 **Improved markup tools.**
 - Choice of smaller [font sizes](#).
 - Add and remove [leaders](#) to and from 2D callouts.
 - [Secure markups](#) preventing them from being changed or deleted accidentally.
- 9 **Printing enhancements.**
 - Separately control [printing colors](#) for sheets and markups.
 - [Print selected sheets](#) from the Thumbnails or List View palettes.
 - Send the open file directly to the printer using [Quick Print](#).


Get Help with Design Review

The Help file contains information about Design Review features. You can locate content in the Help window using the tabs.

- **Contents.** Organized as a table of contents in a book.
- **Index.** Organized as an index in a book.
- **Search.** Allows you to search the help file electronically.
- **Favorites.** Allows you to keep a list of any help topics you want to review again.

At the top of each Help page are hyperlinks called breadcrumbs that indicate the current location in the Help file. At the bottom of each Help page, you can use the “Please send us your comment about this page” to provide feedback regarding the Help file content.

To open the Help window

- Click Home tab ► Assistance panel ► Help. 

TIP You can also press F1 to open the Design Review 2010 Help file.

- Right-click the canvas or SteeringWheel and choose Help.

To perform a basic search in the Help file

- 1 Click the Search tab.
- 2 In the text box, type the word or phrase you want to find.
- 3 Click List Topics.

NOTE The returned search results are affected by the three options below the Select topic list: Search Previous Results, Match Similar Words, Search Titles only.

- 4 Select a topic from the list and click Display.
The selected topic displays in the Help window with the search term highlighted.
- 5 If necessary, use the vertical scroll bar to scan the topic for the highlighted term.

To perform an advanced search

- Type two or more words joined by AND to find all topics with both words in it. For example, “markup AND measure” finds all topics with both words “markup” and “measure”, but not topics with only one of the search words.
- Type two or more words joined by OR when you want to find all topics with at least one of the words in it. For example, “markup OR measure” finds all topics with either the word “markup” or “measure”.

- Enter two or more words joined by NEAR when you want to find all the topics with these words near each other. For example, “markup NEAR measure” finds all the topics that contain the word “markup” near the word “measure”.
- Type two or more words joined by NOT to find all topics containing the first word but not the subsequent words. For example, “markup NOT measure” finds all topics that contain the word “markup”, but not “measure”.

If you combine operators (AND, OR, NEAR, and NOT), the operations are performed from left to right. Therefore, if you search for “markup OR measure AND text NOT stamp,” topics that contain either “markup” or “measure” or both words are found, but they must also contain the word “text” and exclude the word “stamp”.

To select an operator (AND, OR, NEAR, NOT)

- Click the search text box arrow  and select an operator from the drop-down list.

To add a topic to the Favorites tab

- 1 Browse to the desired topic.
- 2 Click the Favorites tab.
- 3 Click Add.

See also:

- [Quick Reference Guide](#) on page 281
- [Learning Resources](#) on page 292

Join the Customer Involvement Program

You are invited to participate in helping guide the direction of Autodesk design software.

If you participate in the Customer Involvement Program, specific information about how you use Design Review is forwarded to Autodesk. This information

includes what features you use the most, problems that you encounter, and other information helpful to the future direction of the product.

See the following links for more information.

- Learn more about the Autodesk Customer Involvement Program:
<http://www.autodesk.com/cip>
- Read the Autodesk Privacy Statement: *<http://www.autodesk.com/cipprivacy>*

To turn the CIP on or off

- 1 Click Home tab ► Assistance panel ► Help drop-down ► Customer Involvement Program.
The Customer Involvement Program dialog box opens.
- 2 Select a level of participation.
- 3 Click OK.

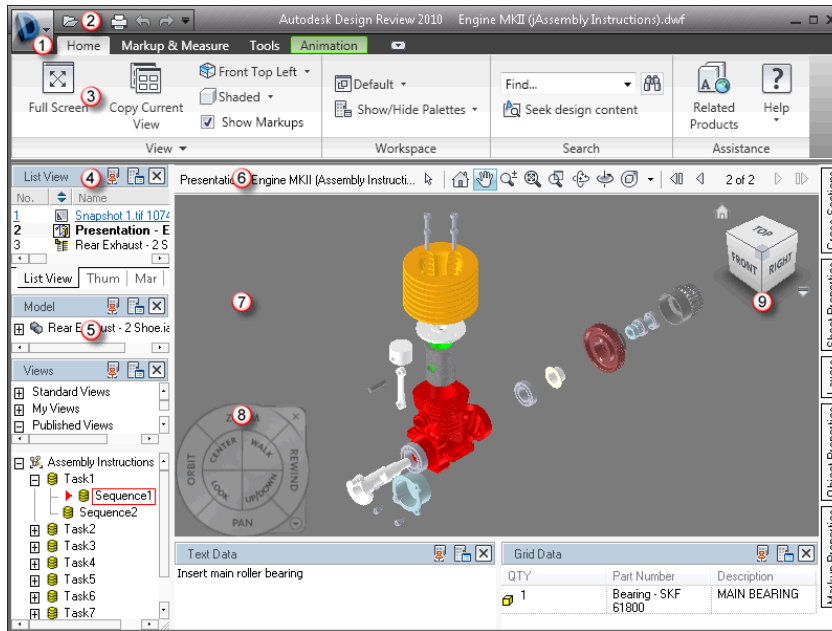
Tour Design Review

2

About the Application Window

The application window displays tools such as the application button, the Quick Access toolbar, the ribbon, and palettes. Design Review provides tools for you to view, mark up, print, and save DWF files to share with others or to return to the publisher of the original DWF for revision. Any changes you make to the

application window are preserved and available the next time you start Design Review.



- | | | |
|------------------------|---------------------|-----------------|
| 1 Application button | 4 Palette title bar | 7 Canvas |
| 2 Quick Access toolbar | 5 Palettes | 8 SteeringWheel |
| 3 Ribbon | 6 Canvas toolbar | 9 ViewCube |

Keytips

Design Review provides accelerator keys, or keytips, to enable you to use the keyboard, rather than the mouse, to interact with the application window. Keytips are provided for the application menu, Quick Access toolbar, and ribbon. To display keytips, press Alt. The keytips (letters or numbers) are shown on the screen next to the corresponding command or user interface element. Press the appropriate keytip keys to invoke the desired command or to show the user interface element. To hide the keytips, press Alt again.

Progressive Tooltips

Placing the mouse pointer over a menu choice or a button shows a tooltip containing the name of the tool and a keyboard shortcut (if applicable). Some tooltips on the application menu, Quick Access toolbar, and ribbon are progressive. In addition to the tool name and keyboard shortcut, a brief description of the command is also provided. If the mouse pointer remains over the menu choice or button, the tooltip may expand to show additional information.

See also:

- [Alternative Methods for Performing Commands](#) on page 281
- [System Requirements](#) on page 295
- [Check for Design Review Updates](#) on page 279

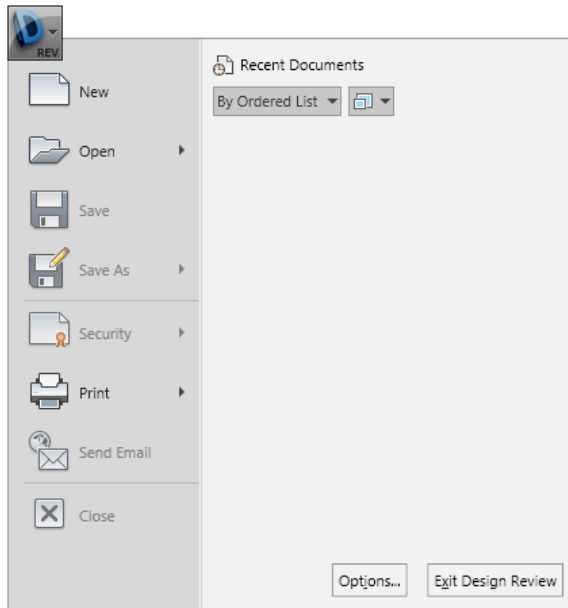
About the Application Button

At the top, left corner of the application window, the application button provides access to the application menu.



The application button

The application menu enables you to access common tools. Some application menu choices have additional menus that show related commands. Application menu choices include: New, Open, Save, Save As, Security, Print, Send Email, and Close.



The application menu

In many locations in the Design Review window, you can access context-sensitive tools using the right-click menu. Depending on the content shown and the location of the mouse pointer when you right-click, the available tools vary.

Recent Documents List

View the most recently used files with the Recent Documents list. Files display in the Recent Documents list with the most recently used file at the top by default.

Pinned Files

You can keep a file listed regardless of files that you save later using the push pin button to the right. The file is displayed at the bottom of the list until you turn off the push pin button.

Sort and Group Files

At the top of the Recent Documents list, use the drop-down list to sort or group files:

- By Ordered List
- By Access Date
- By Size
- By Type

To the right of the sort options, you can use the other drop-down list to show Icons, Small Images, Medium Images, or Large Images to the left of files in the list.

Preview Documents

Also in the Recent Documents list, place the mouse pointer over a file to preview the file and show information about the file:


- File Location
- Date Modified
- Version Info (specifically, the DWF file format version)
- Currently Open By

Use the Quick Access Toolbar

At the top of the application window, the Quick Access toolbar displays frequently used tools.



The Quick Access toolbar

Add unlimited tools to the Quick Access toolbar. Tools that extend past the maximum length of the toolbar are displayed in a drop-down button. 


To add a ribbon button to the Quick Access toolbar

- 1 Display the tab and panel that contains the button you want to add to the Quick Access toolbar.
- 2 Right-click the button on the ribbon and select Add to Quick Access Toolbar.


To remove a ribbon button from the Quick Access toolbar

- Right-click the button on the Quick Access toolbar and select Remove from Quick Access Toolbar.

To undo an action on the canvas

- On the Quick Access toolbar, click Undo.  If the action was several steps back, repeat this command as needed.

To redo an action on the canvas

- On the Quick Access toolbar, click Redo. 

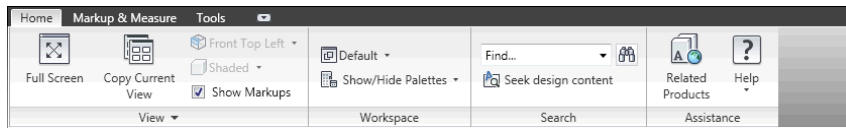
WARNING Clicking the Undo and Redo buttons on the Quick Access toolbar do not affect changes to the Design Review window. The buttons only affect changes to content on the canvas.

Use the Ribbon

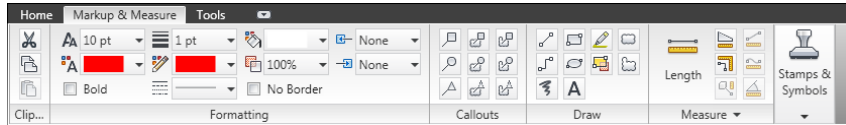
The ribbon is the horizontal area of the application window that contains task-based tabs and panels with tools for viewing, marking up, and sharing DWF files.

Ribbon Tabs and Panels

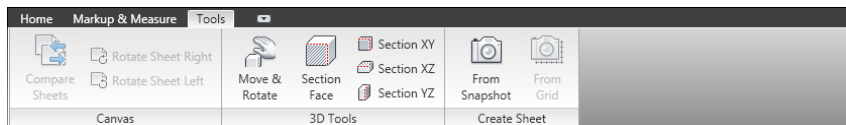
The ribbon is composed of a series of tabs. Each tab contains a series of panels organized by task.



The Home tab



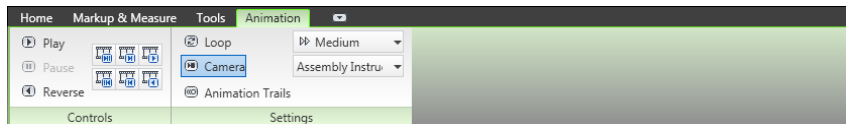
The Markup & Measure tab



The Tools tab

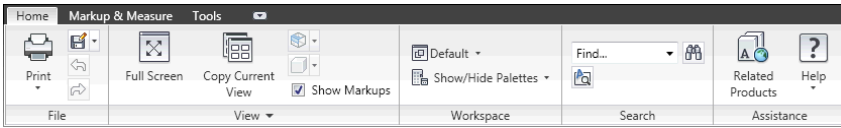
Contextual Tabs and Panels

Design Review contains one contextual tab and one contextual panel. By default, the Animation tab is hidden. However, when a sheet containing an animation is shown on the canvas, this context causes the Animation tab to be shown. The Animation tab provides access to tools used to control how an animation is played. You can also show the Animation tab manually.



The Animation tab is shown only when viewing an animation

Like the Animation tab, by default, the File panel is hidden by default. When a Design Review file is embedded, this context causes the File panel to be shown on the Home tab. The File panel provides access to tools typically available on the application button and Quick Access toolbar, which are unavailable in embedded mode. You can also show the File panel manually.



The File panel is shown on the Home tab only when viewing an embedded DWF file

Expanded Panels

An arrow to the right of a panel title indicates that you can expand the panel to display additional tools and controls. By default, an expanded panel closes automatically when you click another panel. To keep a panel expanded, click the push pin icon in the bottom-left corner of the expanded panel.

To control the ribbon display

- To the right of the ribbon tabs, click the Ribbon Display button. The minimize behavior cycles through the following minimize options:
 - Minimize to Tabs: Minimizes the ribbon so that only tab titles are displayed.
 - Minimize to Panel Titles: Minimizes the ribbon so that only tab and panel titles are displayed.
 - Show Full Ribbon: Displays tabs and full panels, including controls.

TIP You can also double-click the ribbon tab bar or right-click the ribbon tab bar, click Minimize, and select the desired display option.

To hide or show a ribbon tab

- Right-click a ribbon tab, click Tabs, and select the desired tab name.

To hide or show a ribbon panel

- 1 Click the ribbon tab that contains the panels you want to hide or show.
- 2 Right-click the ribbon tab, click Panels, and select the desired panel.

To show or hide ribbon panel titles

- Right-click a ribbon tab and select Show Panel Titles.

To restore the ribbon

- 1 Right-click a ribbon tab and select Restore Ribbon.
The Restore Ribbon dialog box opens.
- 2 Click Yes.

To use full-screen mode

- 1 On the canvas, display the sheet or model you want to view full screen.



- 2 Click Home tab ► View panel ► Full Screen.
- 3 Optional: Manipulate the view using the ViewCube or by right-clicking the canvas and selecting the desired commands.
- 4 When finished viewing the content in full-screen mode, right-click and select Full Screen.

The program window, ribbon, toolbars, and palettes are shown in their previous locations.

TIP Pressing N is a quick way to control what is shown on the screen. Press N once to hide palettes. Press N again to hide ribbon and Canvas toolbar, showing the current sheet full screen. Press N again to show all items.

See also:



- [View Animations in 3D DWF Files](#) on page 121
- [About Embedding DWF Files](#) on page 263

Use the Canvas Toolbar


The Canvas toolbar is located above the upper, right corner of the canvas, providing easy access to some common selection, view, and navigation tools for working in an open file. When you place the mouse pointer over a button, a tooltip displays. If a button has a small black arrow to the right, clicking the arrow shows buttons for related commands.



Canvas toolbar

By default, Design Review enables the [Pan](#) on page 64 tool  for 2D DWF files and the [Orbit](#) on page 74 tool  for 3D DWF files. When a DWF file has multiple sheets, the arrow buttons on the Canvas toolbar enable you to navigate quickly through them.


Depending on the open DWF file and the sheet displayed on the canvas, the Canvas toolbar may show additional icons: one icon to indicate whether or

not the DWF file has been digitally signed  and another icon to indicate


if the sheet contains [disablements](#) on page 45. 

To affect any item in Design Review, you must first select it.


To select an item

- 1 On the Canvas toolbar, click Select. 
- 2 Click the item you want to select.

To select multiple items

- 1 On the Canvas toolbar, click Select. 
- 2 Click the items you want to select.
 - To select consecutive items in a palette, press and hold Shift, click the first and then the last item in a range, and release Shift. The two clicked items and all in between are selected.
 - To select non-consecutive items in a palette or on the canvas, press and hold Ctrl, click the items you want to add to the selection and release Ctrl. Ctrl-click any of the selected items to remove that item from the selection.
 - To select multiple 2D markup objects, on the canvas, click and drag the Select tool around the items you want to select.
 - To exclude some 3D published objects from a selection, select the items you do not want to be part of a larger selection. Then right-click

and select Invert Selection. The previously selected items are excluded from the selection.

When more tools are available on a toolbar than are shown, the More button is displayed  at the end of a toolbar.

To show hidden toolbar buttons

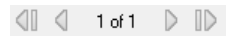
- 1 At the end of a toolbar, click the More button  to open a drop-down list of hidden buttons.
- 2 Click the desired button.

The Map toolbar cannot be hidden while a map is on the canvas, nor can it be displayed when no map is displayed. The Canvas toolbar cannot be hidden.

About Contextual Toolbars

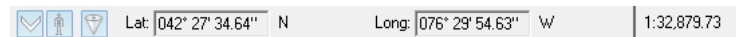
The Quick Access and Canvas toolbars are available most of the time in Design Review. However, some toolbars are displayed depending on the content shown on the canvas. These toolbars are contextual. The Grid Data, and Map toolbars are contextual toolbars.

Much like the sheet navigation tools on the Canvas toolbar, the Grid Data toolbar includes tools for navigating between sheets of tabular data, such as a parts list.



Grid Data palette toolbar

The Map toolbar contains tools for viewing [georeferenced maps](#) on page 301. The tools on the Map toolbar are accessible only when a georeferenced map is shown on the canvas.



Map toolbar

See also:

- [Object Highlighting for 2D Objects](#) on page 269

- [Object Highlighting for 3D Objects](#) on page 270
- [Change 2D Sheet Views](#) on page 63
- [Change 3D Model Views](#) on page 71

Use Palettes

Manipulate Palettes

A palette is a group of related features that enables you to find and display information about content in a DWF file. There are several palettes:

- **Thumbnails and List View palettes.** These two palettes show the 2D and 3D sheets, tables, and other sheets contained in the open DWF file. Clicking a sheet in either palette to display the contents on the canvas.
- **Sheet, Markup, and Object.** In previous versions of Design Review, the Properties palette had three different views: Sheet, Markup, and Object Properties. In this version, the Properties palette has been replaced by the Sheet Properties, Markup Properties, and Object Properties palettes. For the selected content, these three palettes show sheet, markup, and [object](#) on page 302 properties.
- **Markups.** Lists all markups in the DWF file organized by sheet. Clicking a markup displays it on the canvas and displays the Markup Properties view in the Properties palette.
- **Model.** For 3D models, it lists the objects and subobjects in a 3D model. Clicking an object or subobject highlights it on the canvas.
- **Views.** Lists views created in Design Review, and views created in AutoCAD®, Inventor®, and Revit®.
- **Cross Sections.** For 3D models, it lists cross sections. A cross section is a section made by cutting a model at an angle, usually to show an interior view. In the Cross Sections palette, right-clicking a cross section enables you to perform various functions, such as flip the cross section, hide the section plane, deactivate the cross section, and so on.
- **Layers.** For 2D sheets, it lists all [layers](#) on page 301 for each sheet. Right-clicking a layer enables you to turn the layer on and off.

- Text Data. Displays textual data, such as assembly instructions, included with published animations in a 3D DWF file.
- Grid Data. Displays any tabular data, such as a parts list or Bill of Materials, included in a DWF file.
- Find. Quickly locate text in an open DWF file by searching tabular data, markups, objects, sheet names, and properties.

WARNING Clicking the Undo and Redo buttons on the Quick Access toolbar do not affect changes to the Design Review window. The buttons only affect changes to content on the canvas.

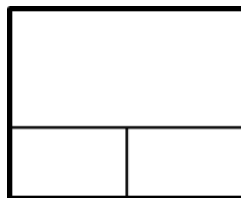
About Palette Positions

In Design Review, the palettes can be manipulated to facilitate your design review sessions. Palettes can be docked (pinned and unpinned), undocked, and grouped.

A docked palette is one that is attached to the program window and is constantly available in a workspace. Palettes can be docked in the docking areas above or below and to the left or right of the canvas. In the docking areas to the left and right of the canvas, palettes can be stacked vertically and, in the docking areas above or below the canvas, palettes can be positioned side by side.

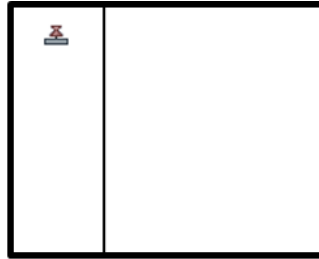


Stacked palettes



Side-by-side palettes

By default, a docked palette is pinned, meaning that the palette remains displayed at its current size and can be moved. When you unpin a palette and move the mouse pointer away from it, the palette is reduced to a tab displaying the palette name. Moving the mouse pointer over the tab displays the palette fully, but temporarily, over the canvas. Unpinning a palette can show more of the canvas while still keeping the palette available. Unpinning a palette also prevents it from being undocked, grouped, or ungrouped.



Palettes pinned



Palettes unpinned

An undocked palette is one that has been separated from the program window. Each undocked palette can be moved around the screen or screens as desired. Although undocked palettes cannot be pinned, they can be resized and grouped.





A palette group is a way to have more than one palette occupy the same amount of space on the screen. When palettes are grouped, each palette is represented by a tab at the bottom of the group. For example, the Thumbnails and List View palettes are grouped by default. In a group, click a tab to display that palette. You can group or ungroup palettes as necessary and save custom workspaces to facilitate your design review process. After changing palette positions, you can save your settings as a [custom workspace](#) on page 38.

TIP In a pinned group, each palette can be resized separately from other palettes.

Above every palette is a palette title bar. The palette title bar enables you to control the location of the palette and how content is shown in the palette.



A palette title bar

- The Pinned  and Unpinned  buttons control the position of the palette.
- The Palette Options button  provides access to commands for manipulating palette content.
- The Close Palette button  hides the palette.

To hide or show a palette

- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Select the desired palette.

To undock a palette

- 1 Click the title bar of a docked palette and drag the palette over the canvas. As you begin dragging, an outline of the palette is shown to indicate that the palette is undocked.
- 2 Drop the palette to undock it.

To dock a palette

- 1 Click the title bar of an undocked palette and drag it toward the side of the canvas where you would like it docked. When the palette outline nears that location, the outline snaps to the side of the canvas to indicate that docking is allowed.
- 2 Optional: Position the palette in relation to any other palettes.
- 3 Drop the palette to dock it.



To group palettes

- 1 Click and drag the title bar of the palette to be added to another palette or group.
- 2 Drop the palette on the title bar of the receiving palette or group.
A tab, with the name of the dragged palette, is added to the bottom of the receiving palette. The palettes are grouped.
Click a tab to display the palette content.



To ungroup palettes

- 1 Within the palette group, display the palette you want to remove.
- 2 Click and drag the palette tab out of the group.
- 3 Drop the palette to ungroup.

To unpin a palette

- On a palette title bar, click the Pinned button. 
The palette becomes unpinned. The Pinned button changes to the Unpinned button  and a tab with the name of the pinned palette is shown on the side of the canvas where the palette is docked. The palette continues to be displayed until you move the mouse pointer away from it. When you move the mouse pointer, the palette is collapsed until you place the mouse pointer over the palette tab. Repeat this step to pin the palette.

To resize a palette

- 1 Place the mouse pointer over a palette border until the mouse pointer changes to vertical, double-headed arrow  or a horizontal, double-headed arrow. 
- 2 Click and drag the border to the desired size.

To scroll within a palette

- If palette contents are too large to show completely, drag the vertical and/or horizontal scroll bars inside the palette.

To resize a column within a palette

- 1 Place the mouse pointer over the line that separates column headings until the mouse pointer changes to a horizontal, double-headed arrow.



- 2 Drag the mouse pointer left or right to resize the column.

To sort a palette column in ascending or descending order

- Click a column heading and the column sorts numerically or alphabetically. If the column is already in order, a click reverses the order.

Thumbnail Palette

The Thumbnails palette shows icons representing 2D and 3D sheets, tables, and other sheets contained in the open DWF file.

To hide or show the Thumbnails palette


- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Click Thumbnails.

To show a sheet on the canvas

- In the Thumbnails palette, click the sheet you want to view. The sheet is shown on the canvas.

NOTE If the sheet in the Thumbnails palette contains tabular data, the information is shown in the Grid Data palette.

To change the sheet view in the Thumbnails palette

- On the Thumbnails palette title bar, click the Palette Options button  and select a sheet view.
 - Large Thumbnails. Displays a larger graphical representation of the sheet and its contents.

- Small Thumbnails. Displays a smaller graphical representation of the sheet and its contents.


See also:


- [Compose DWF Files](#) on page 151
- [Learning Resources: Alternative Methods for Performing Commands](#) on page 281


List View Palette


The List View palette lists 2D and 3D sheets, tables, and other sheets contained in the open DWF file.


This information is shown in the List View palette.

- The number of the sheet as published. The number indicates the sheet order in the DWF file.
- An icon representing the type of sheet. You can sort the list by icon type by clicking the up or down arrows.  The publisher may provide icons. If not, Design Review provides generic icons:


- 2D drawing or image 

- 3D model 

- 3D part 

- iAssembly 

- iPart 

- table 

- presentation 

- The name of the sheet. You can rename a sheet.
- The size of the sheet.
- A description, if the publisher of the sheet, model, or table has provided one.
- The type of content on the sheet. If the publisher has not defined the type, generic types such as Sheet, Model, or Table are displayed.

To hide or show the List View palette

- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Click List View.

To show a sheet on the canvas

- In the List View palette, click the sheet you want to view. The sheet is shown on the canvas.

NOTE If the sheet in the List View palette contains tabular data, the information is shown in the Grid Data palette.

See also:

- [Compose DWF Files](#) on page 151
- [Rename a Sheet](#) on page 156
- [Learning Resources: Alternative Methods for Performing Commands](#) on page 281

Sheet Properties Palette

The Sheet Properties palette shows properties for the selected sheet. These sheet properties are determined by the program that created the DWF file. Sheet properties include may include author, creation time, description, modification time, sheet name, sheet size, and so on.

To hide or show the Sheet Properties palette

- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Click Sheet Properties.

To view sheet properties

- On the canvas or in the Sheet Properties palette, select the sheet that contains the properties you want to view.
The properties for the selected sheet display in the Sheet Properties palette.

See also:

- [Search Autodesk Seek](#) on page 57
- [Use Palettes](#) on page 20
- [Select Items](#) on page 17
- [Learning Resources: Alternative Methods for Performing Commands](#) on page 281

Markup Properties Palette

The Markup Properties palette shows properties for the selected markup. These markup properties may include label, reviewing status, locking status, notes, history, markup author, creation time, modification time, and sheet name where the markup resides.

To hide or show the Markup Properties palette

- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Click Markup Properties.

To view markup properties

- On the canvas or in the Markups palette, select the markup that contains the properties you want to view.
The properties for the selected markup display in the Markup Properties palette.

See also:

- [Select Items](#) on page 17
- [About Markup Properties](#) on page 163
- [Change Markup Properties](#) on page 176
- [Learning Resources: Alternative Methods for Performing Commands](#) on page 281

Object Properties Palette

The Object Properties palette shows properties for the selected published object. These object properties vary widely based on the DWF file publisher's requirements.

If published objects are nested (objects within objects), only the properties for the top-level object are shown in the palette.

To hide or show the Object Properties palette

- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Click Object Properties.

To view object properties

- On the canvas or in the Object Properties palette, select the object that contains the properties you want to view.
The properties for the selected object display in the Object Properties palette.

See also:

- [Search Autodesk Seek](#) on page 57
- [Use Palettes](#) on page 20
- [Select Items](#) on page 17
- [Learning Resources: Alternative Methods for Performing Commands](#) on page 281

Markups Palette

The Markups palette lists all markups in the DWF file organized by sheet. Clicking a markup displays it on the canvas and displays the Markup Properties view in the Properties palette.

To hide or show the Markups palette

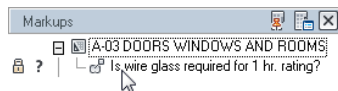
- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Click Markups.

To display markup in the Markups palette

- 1 With a DWF file open that contains markup, in the Markups palette, click the plus sign (+) next to the sheet that contains the markup.





- 2 Click the markup.



The sheet containing the markup is shown on the canvas, panned and zoomed to the position at which the markup was created.

Markup Status

On the Markups palette, the status of the markup is indicated by its icon. On the canvas, callout, custom symbol, and shape markup colors change to reflect the status.

Icon	Status	Markup Color on Canvas
	<None>	No status color
	For Review	Blue

Icon	Status	Markup Color on Canvas
	Question	Green
	Done	Yellow

NOTE Markup Status can be set or modified from the [Properties palette](#) on page 28.

The status color highlighting can be viewed and printed with the drawing. If you wish to view or print the drawing and markup without highlighting, you can turn the color highlighting off. To turn status color highlighting off, see [Markup Settings](#) on page 267.

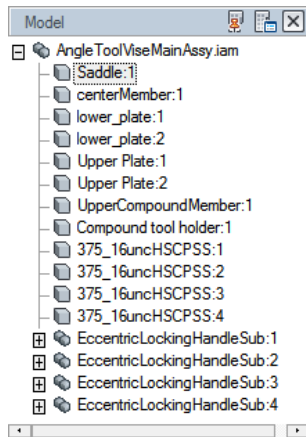
NOTE RML files are markup files created in Volo View. They contain the markup alone without the drawing. Design Review does not read RML files.

See also:

- [Markup Basics](#) on page 161
- [Control Markup Display](#) on page 164
- [Change Markup Properties](#) on page 176
- [Learning Resources: Alternative Methods for Performing Commands](#) on page 281

Model Palette

The Model palette contains a tree list of the [objects](#) on page 302 and subobjects of a 3D model. The objects and subobjects within the model are defined by the publisher of the DWF file.



To hide or show the Model palette

- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Click Model.

See also:

- [About 3D DWF Files](#) on page 71
- [Learning Resources: Alternative Methods for Performing Commands](#) on page 281

Views Palette

The Views palette lists standard 2D and 3D views, views created in Design Review, and views created by AutoCAD®, Autodesk® Inventor®, and Revit® users. Publishing a particular view can help direct reviewers to the content to be reviewed.

Animations are loaded into Design Review automatically when the first sheet of the DWF file contains an animation.

The Views palette shows several types of views:

- **Standard Views.** Lists various 3D views such as front, back, top, bottom, and so on.

- **My Views.** Views created in Design Review saved as My View 1, My View 2, and so on. My Views can be renamed. Each sheet has its own set of My Views.
- **Named Views.** Views created by Autodesk products that publish named views.
- **Published Views.** Views and animations published from Inventor.
- **Bookmarks.** Views published from Revit.


To hide or show the Views palette

- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Click Views.

To save a view to My Views

- 1 Arrange the items on the canvas and set the view the way you want it to be saved.

IMPORTANT Saving to My Views is the only way to save Layer, Move and Rotate, and Cross Section views.

- 2 On the Views palette title bar, click the Palette Options button  and select Save View.

The selected view is saved under My Views as My View 1. Additional views are saved as My View 2, My View 3, and so on. You can rename saved views as desired.

To rename a saved view

- 1 In the Views palette, under My Views, right-click the saved view you want to rename and select Rename.
The Rename View dialog box opens.
- 2 In the Type New Name text box, type the new name.
- 3 Click OK.
The new name is applied to the saved view.

To update an existing saved view

- 1 If necessary, rearrange the items on the canvas and reposition the view the way you want it to be saved.
- 2 In the Views palette, under My Views, right-click the saved view you want to update and select Save. The new arrangement has been saved to the existing My View.

To delete a saved view

- In the Views palette, under My Views, right-click saved view you want to delete and select Delete.
The saved view is deleted.

TIP You can also right-click a saved view and select Reset to Published View to return the sheet to the way it was originally published.

To delete all saved views

- In the Views palette, right-click My Views and select Delete My Views.
All saved views are deleted.

See also:

- [Start an Animation](#) on page 124
- [Use Standard 3D Model Views](#) on page 72
- [Learning Resources: Alternative Methods for Performing Commands](#) on page 281

Cross Sections Palette

The Cross Sections palette lists the cross sections created by you or the publisher of the 3D model.

To hide all cross sections on the model

- In the Cross Sections palette, right-click My Cross Sections and select Active.
The check mark is removed from the Active command.

To hide all cross sections on the model

- In the Cross Sections palette, right-click My Cross Sections and select Active.
The check mark is removed from the Active command. The section plane and all cross sections are hidden. To display them again, right-click My Cross Sections in the Cross Sections palette and select Active.


To manipulate a cross section from the Cross Sections palette

- Right-click the cross section you want to manipulate and select the desired command.
 - Flip. Flips the cross section.
 - Hide. Hides the section plane.
 - Active. Activates or deactivates the cross section.
 - Viewpoint. Displays the cross section parallel to the screen.
 - Rename. Changes the name of the cross section.
 - Reset. Returns a section plane to its original position.
 - Delete. Deletes a cross section.

To hide or show the Cross Sections palette

- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Click Cross Sections.

To hide the section plane and a cross section temporarily

- In the Cross Sections palette, right-click the cross section you want to hide and select Active.
- Click the light bulb  next to the Cross Section you want to hide.

See also:

- [View Cross Sections of a 3D Model](#) on page 111
- [Control Caps Display](#) on page 117

- [Learning Resources: Alternative Methods for Performing Commands](#) on page 281

Layers Palette

The Layers palette lists all layers on the currently displayed sheet. For example, a layer shows only plumbing and another layer showing electrical. Layers can be turned on and off, so that they can be viewed individually or all together. It is up to the DWF file publisher whether downstream consumers can turn layers on and off when viewing the DWF file in Design Review.

To hide or show the Layers palette

- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Click Layers.


To hide layers

- 1 In the Layers palette, select the layer or layers you want to affect.
- 2 Right-click the selection and select Layer(s) Off.
The selection is hidden.

TIP You can also click the light bulb  to the left of the layer name to hide the selected layer or layers.

To show layers

- 1 In the Layers palette, select the layer or layers you want to affect.
- 2 Right-click the selection and select Layer(s) On.
The selection is shown.

TIP You can also click the darkened light bulb icon  to the left of the layer name to show the selected layer or layers.

See also:

- [Learning Resources: Alternative Methods for Performing Commands](#) on page 281

Text Data Palette

The Text Data palette lists all textual data, such as assembly instructions.

To hide or show the Text Data palette

- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Click Text Data.

See also:

- [About Tabular Data](#) on page 133

Grid Data Palette

The Grid Data palette shows all detail associated with a selection, such as part details.

To hide or show the Grid Data palette

- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Click Grid Data.

See also:

- [About Tabular Data](#) on page 133

Find Palette

The Find palette enables you to locate text quickly in an open DWF file by searching for tabular data, markups, text on 2D sheets, objects, sheet names, and their properties. Found results are shown in a convenient list, enabling you to click a result to display the found text or associated object on the canvas or in a palette.

To hide or show the Find palette

- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.
- 2 Click Find.

See also:

- [Find Text in an Open DWF File](#) on page 55

Use Workspaces

Workspaces retain information about which palettes are open, the palette positions, and the size of the application window. Workspaces do not retain changes made to the ribbon or Quick Access toolbar.

Design Review has two predefined workspaces with palettes arranged to help facilitate various review workflows: Default and Animation.

Default

- List View, Thumbnails, Markups, and Model palettes in a tabbed grouped.
- Markup Properties
- Other palettes are displayed as tabs to the right of the canvas.

Animation

- List View, Thumbnails, and Markups palettes in a tabbed grouped.
- Model
- Views
- Text Data

- Grid Data
- Other palettes are displayed as tabs to the right of the canvas.

In addition to the predefined workspaces, you can also create custom workspaces. Use custom workspaces to show only the palettes you use in the desired locations.

If, after manipulating the palettes and application window size, you want to change or restore the Design Review workspace, you can select the default workspace, a predefined workspace, or a saved custom workspace.

NOTE When you select a predefined workspace, the application window resizes to size stored in the workspace. Predefined workspaces use a maximized window. To retain a different application window size, resize the window to the desired dimensions and create a custom workspace.

To select a predefined workspace

- 1 Click Home tab ► Workspace panel ► Workspace drop-down list.
- 2 Select the desired workspace.

To create a custom workspace

- 1 Arrange the palettes so they are positioned how you want them to be saved.
- 2 Click Home tab ► Workspace panel ► Workspace drop-down list.
- 3 Select Save Current Workspace.
The Save Workspace As dialog box opens.
- 4 In the Enter Workspace Name text box, type the name of the custom workspace.
- 5 Click OK.
The custom workspace is saved and listed above the predefined workspaces. Custom workspaces are listed in the order they were created.

TIP To modify a custom workspace, make the desired changes and save it again with the same workspace name.

To rename a custom workspace

- 1 Click Home tab ► Workspace panel ► Workspace drop-down list.
- 2 Select Manage Workspaces.
The Manage Workspaces dialog box opens.
- 3 From the Current Custom Workspaces list, select the workspace you want to rename.
- 4 Click Rename.
The workspace name is selected.
- 5 Type the name of the workspace and press Enter.
The workspace is renamed.
- 6 Click Close.

To delete a custom workspace

- 1 Click Home tab ► Workspace panel ► Workspace drop-down list.
- 2 Select Manage Workspaces.
The Manage Workspaces dialog box opens.
- 3 From the Current Custom Workspaces list, select each workspace you want to delete.
- 4 Optional: Click Select All to mark all custom workspaces for deletion.
- 5 Click Delete.
The Delete dialog box opens.
- 6 Click OK.
The selected workspaces are deleted and removed from the workspaces list.
- 7 Click Close.

Using Design Review

Receive DWF Files

3

About Receiving DWF Files

You can receive DWF files several ways.

- As an email attachment
- From a shared folder on a company network
- From an Autodesk® Buzzsaw® or Autodesk® Streamline® project folder
- From an FTP server
- From a disk, memory card, or other device
- Embedded in a web page or other file type

NOTE Some DWF files you receive can contain sheets or models that have been markup-, measure-, or print-disabled.

Compatibility with Earlier Versions of Design Review

In Design Review 2010, you can open any version of DWF. You can also modify all markups created in earlier versions of Design Review. When you alter markup created by an older version of Design Review and save the DWF file, a warning dialog box opens. To save the DWF file changes in the newer DWF version, click OK. To retain the original DWF file version but discard any changes, click Cancel.

Earlier versions of Design Review (DWF Composer 1.0, 2.0, and Design Review 2007, 2008, and 2009) can view, but not modify, some markups from later versions of Design Review. For example, in DWF Composer 1.0, you can view custom symbols, but not select or move them. If earlier versions of Design

Review are unable to access certain features, download the latest version. In general, if you are having difficulty viewing DWF files, verify that you have the most current software by clicking Home tab ► Assistance panel ► Help drop-down ► Check for Updates.

See also:

- [About Disabled DWF Files](#) on page 45
- [Warn When Upgrading Earlier Versions of DWF](#) on page 268
- [Check for Design Review Updates](#) on page 279

Open Files


4

About Disabled DWF Files

If you use Autodesk® Inventor® R11 DWF Extension (available to subscription customers) or later, you can prevent recipients from measuring some or all sheets or models in their published DWF files. In addition to disabling measurement, if you are using Autodesk® Inventor® 2008 or later, you can also disable markup and printing capabilities for some or all sheets or models when publishing DWF files. When you open a DWF file that contains disabled sheets, a dialog box opens listing all the disabled sheets and the restrictions for each.

NOTE You can prevent this dialog box from opening by checking the Don't Show Me This Message Again check box, or uncheck the Warn When Viewing a Document with Restrictions check box on the General tab in Options dialog box.

When a markup-, measure-, or print-disabled sheet is shown on the canvas,

some related tools are disabled. Depending on the disablements, an icon  is shown on the Canvas toolbar and in the Restrictions column of the List View palette, indicating that portions of the DWF file contain disabled features.

Placing the mouse pointer over the icon shows all restrictions applied to the content on that sheet. Also, DWF files that contains markup-, measure-, or print-disabled sheets retain their disablements in embedded mode. Furthermore, when disabled sheets are copied or moved to another DWF file, or are saved as a new DWF file, the disablements are retained.

If you have a problem opening a disabled sheet, verify that you have the latest version of Design Review and contact the publisher of the DWF file.

See also:

- [About Composing DWF Files](#) on page 151
- [About Markup-Disabled DWF Files](#) on page 162
- [About Measure-Disabled DWF Files](#) on page 200
- [About Print-Disabled DWF Files](#) on page 239
- [Warn When Viewing a Document with Restrictions](#) on page 268

About Opening Other File Types

Besides opening DWF and DWFX files, Design Review can open a wide variety of other file types for viewing or for saving as a DWF file.

- DWG and DXF files
- Adobe PDF files
- Images Files

When opening other file types in Design Review, the original files remain unaffected.

NOTE With the proper [plug-ins](#) on page 149 installed, Design Review can also open DGN and JT files.

About Opening DWG and DXF Files

Design Review enables you to open a [DWG](#) on page 300 or [DXF](#) on page 300 file through a background conversion process. To do so, Design Review requires either Autodesk® AutoCAD® 2010 or the free DWG TrueView™ 2010 program to be installed.

- If AutoCAD 2010 is installed, the DWG or DXF file can be converted to either the DWF or DWFX file format. Additional DWG Viewing options are available within the Design Review Options dialog box to control the conversion quality.
- If only DWG TrueView 2010 is installed, the DWG or DXF file is converted to the DWF file format using current DWG TrueView settings.

- If both are installed, AutoCAD 2010 is used to convert the DWG or DXF file.
- If neither is installed, you are prompted to download and install DWG TrueView.

For the best conversion results, always use a program's built-in publishing capabilities.

WARNING If a DWG file contains sheets with uninitialized layouts, those sheets are not opened in the resulting DWF file.

Opening a DWG or DXF file is the same as opening a DWF file. Both DWG and DXF are part of the All DWF Files (*.dwf, *.dwt, *.dwg, *.dxf) from the Files of Type drop-down list in the Open File dialog box. Once the DWG or DXF file is open on the canvas, you can view and print it just like any DWF file. If you modify the open DWG or DXF file, you are prompted to save it as a DWF file to retain the modifications. The original DWG or DXF file remains unchanged.

TIP When opening a DWG file containing viewports, if the viewports do not display as expected in Design Review, in the Options dialog box, on the DWG Viewing tab, uncheck the Fit Drawing to This Size option and try reopening the DWG file.

About Opening PDF Files

Design Review 2010 enables you to open PDF files and save them as new DWF files. Each PDF page is converted into a new sheet in the opened DWF file. Opening a PDF file is like opening a DWF file, except that you must first select Adobe PDF (*.pdf) from the Files of Type drop-down list in the Open File dialog box. Once the PDF file is open on the canvas, you can view and print it just like any DWF file. No additional software is required.

Some content in PDF files is not supported by Design Review.

- 3D objects
- Annotations
- File attachments
- Forms
- Hyperlinks
- Layers and bookmarks

- Movies and sounds
- PDF digital signatures
- PDF markups
- PDF packages

If a PDF file is password-protected, a dialog box opens prompting for the password. Once you enter the password and click OK, protections, such as edit disablements, are not respected by Design Review, nor will they be available if the PDF is saved as a DWF file. If a PDF file contains digital rights management features, Design Review will not be able to open it.

NOTE Design Review cannot save an open DWF file in the PDF file format.

About Opening Image Files

Design Review enables you to open images and save them as new DWF files. The resulting opened content is a raster image. The way to open an image is like opening a DWF file, except that you must first select the desired image file format from the Files of Type drop-down list in the Open File dialog box. No additional software is required.

Design Review can open the several image file types.

Supported Image File Types	Files of Type
Bitmap files	*.bmp
Mil-R-Raster, multi-sheet files	*.cal, *.cals, *.cg4, *.gp4, *.mil, *.rst
GIF files	*.gif
JPEG files	*.jpg, *.jpeg, *.jpe, *.jfif
Paintbrush files	*.pcx
Mac files	*.pct, *.pict
PNG files	*.png

Supported Image File Types	Files of Type
Run Length Compressed files	*.rlc
TGA Truevision TARGA files	*.tga
Tagged Image File Format files	*.tif, *.tiff

About Limitations of Opened PDF and Image Files

When PDF and image files are opened in Design Review, some features are not available.

- Snap to Geometry cannot be used.
- Image text is not searched when using Find.
- Measurements may be inaccurate.
- PDF and image files cannot be used with Compare.

About Resolution

The resolution of a file refers to how many dots per inch, or **dpi** on page 300, are shown on the screen. The more dots per inch (that is, the higher the dpi), the better the resolution is, as there is more detail. However, the higher the dpi, the larger the file size.

For DWG files, if AutoCAD 2010 is installed, additional DWG Viewing options are available within the Design Review Options dialog box to control the conversion quality. Before opening a DWG file use the DWG Viewing options to make the resolution higher (specify a larger dpi value) when greater detail is required and make the resolution lower resolution (specify a smaller dpi value) when faster performance is more important. Drawings are typically created at 400 dpi, the resolution considered most secure, while still allowing acceptable precision of measurements.

For image files, if there is resolution information associated with a file, it displays at that resolution. If there is no resolution information associated with the image, Design Review displays it at 150 dpi.

For PDF files, additional PDF Conversion options are available within the Design Review Options dialog box to control the resolution. Before saving a PDF file, use the PDF Conversion options to make the resolution higher (specify

a larger dpi value) when greater accuracy of detail is required and make the resolution lower resolution (specify a smaller dpi value) when faster performance is more important.

See also:

- [DWG Viewing Tab \(Options Dialog Box\)](#) on page 275
- [About Saving an Open PDF as a DWF File](#) on page 227
- [PDF Conversion Tab \(Options Dialog Box\)](#) on page 274
- [Learning Resources: DWG TrueView](#) on page ?
- [About the Units and Scale Dialog Box](#) on page 203
- [Rotate 2D Sheets](#) on page 69

About Opening Multiple Files

Unlike many other Windows-based programs, Design Review cannot open multiple files in one program window. However, you can start multiple instances of Design Review at the same time.

This capability is useful for some of the following tasks:

- View two or more copies of the same file to review different pages at the same time.
- View two or more different files.
- Create different markups in copies of the same DWF file.

NOTE Save each copy under a different name. If they are saved under the same name, the last one to be saved overwrites the first.

- Cut and paste markup between different DWF files to save time on repetitive markup.
- Drag and drop sheets between different DWF files to compose custom DWF files.

TIP From Windows Explorer or the desktop, you can also open multiple DWF files in separate instances of Design Review by selecting them and then right-clicking the selection and choosing Open.


See also:

- [Compose DWF Files](#) on page 151

Open a File

As a file opens, a progress bar indicates the status of opening the file. The progress bar is especially useful when opening a large file.

To open a file

- 1 Click the application button ► Open ► Open File. 
The Open File dialog box opens.
-

TIP You can also click the Open button  on the Quick Access toolbar.

- 2 Optional: Navigate to where the file you want to open is stored.
 - 3 Optional: From the Files of Type drop-down list, select the desired file format.
-

NOTE When opening other file types in Design Review, the original files remain unaffected.

- 4 Select the desired file and click Open.
If the file is password-protected, a dialog box opens prompting for the password. Enter the password and click OK.
The file is opened on the canvas.

If you opened a digitally signed DWFx file, information about the signature is available, and a digital signature icon is shown in the Canvas toolbar.


TIP You can also open recently used files quickly from the Recent Documents on the application menu.

To open a file by dragging and dropping it into Design Review


- From Windows Explorer or the desktop, drag a supported file to Design Review and drop it on the canvas. The file opens in Design Review.

WARNING Dragging a supported file and dropping it into the Thumbnails palette or the List View palette instead of onto the canvas merges the dropped file with the currently open DWF file.

To close a file from within Design Review

- Click the application button  Close. If no changes were made to the open file, the open file closes. If changes were made to the open file, you are prompted to save the changes. To save the changes to the existing file, click Yes. To continue exiting and discard the changes, click No. To return to the open file, click Cancel. The open file closes, leaving the Design Review window open.

To exit Design Review

- Click the application button  Exit Design Review. If no changes were made to the open file, the open file closes and Design Review exits. If changes were made to the open file, you are prompted to save the changes. To save the changes to the existing file, click Yes. To continue exiting and discard the changes, click No. To return to Design Review, click Cancel.

See also:

- [Combine DWF Files](#) on page 151


Open a DWF File from Buzzsaw

Autodesk Buzzsaw is a collaboration and project management program that enables team members to deposit, view, copy, discuss, and print documents or drawings related to their project.

If you are a member of a Buzzsaw project site, you can open and save DWF files to that site. Have your user name, password, and location of the file

available. See your project or site administrator if you have a problem with Buzzsaw.

To open a DWF file from Buzzsaw

- 1 Click the application button ► Open ► Open From Buzzsaw. 
The Buzzsaw Login dialog box opens.
- 2 Enter your User Name, Password, and Site.
- 3 Click OK.
The Open File from Buzzsaw dialog box opens.
- 4 Optional: Navigate to where the file you want to open is stored.
- 5 Optional: From the Files of Type drop-down list, select the desired file format.
- 6 Select the desired file and click Open. If the file is password-protected, enter the password.
The file opens and is set to read-only mode. You cannot save changes to it. To save changes, you must save it using another file name.

See also:

- [Save DWF Files](#) on page 227
- [Learning Resources: Autodesk Products](#) on page ?

Locate DWF-Related Content

5

Find Text in an Open DWF File

You can quickly locate text in an open DWF file by searching for tabular data, markups, text on 2D sheets, objects, sheet names, and their properties. Found results are shown in a convenient list, enabling you to click a result to display the found text or associated object on the canvas or in a palette.

By default, the entire DWF file is searched for the term you enter in the Find drop-down list. You can narrow your search by clicking the Advanced Search button in the Find palette.

- **Find Whole Words Only.** Find only whole words that match the text in the Find drop-down list. For example, if you select Find Whole Words Only and search for *bolt*, Find does not locate the text string *bolts* or *bolted*. When the search term contains spaces or punctuation, the Find Whole Words Only option is disabled.
- **Use Wildcards.** Find all text that contains a known portion of a word. The question mark (?) wildcard enables you to find words containing an unknown single character. For example *w?re* finds *wire* and *ware*. The asterisk (*) wildcard enables you to find words containing an unknown string of characters. For example, *l*t* finds *lift* and *last*. When Use Wildcards is selected, the Match Case and Find Whole Words Only options are disabled.
- **Match Case.** Find only text that matches the capitalization used in the Find drop-down list.


- Find In. Find text in particular locations. Select the type of content being searched: All, Current Model or Sheet, Current Table, Markups, Models, Sheets, Tables.

Hidden Text

In some cases, when a DWF file is published, a font is published as geometry. Consequently, although content appears to be text in the DWF file, it is not. As a result, geometric representations of text are not found.

Another instance when text may not be found is when PDF and image files are opened in Design Review. All text and geometry in the source file is rasterized in the resultant DWF file. Consequently, text in such files cannot be searched.

In other cases, Design Review may be unable to locate text accurately. On

those occasions, a light blue “A” icon  is shown in the Results list and an indicator is shown on the canvas the general area on the sheet where text is found. This indicator is not printed, and is only visible while the Find palette is open.



**Hidden
text
indicator**

To find text in an open DWF file


- 1 Click Home tab ► Search panel.
- 2 In the Find drop-down list, type the text you want to locate.
As you type, the most recently searched terms are shown and can be selected.

- 3 Click Go. 

The Find palette opens.

TIP You can also display the Find palette by clicking Home tab ► Workspace panel ► Show/Hide Palettes drop-down list and selecting Find.

If results are found that meet your criteria, matches are displayed in the Results list. The total number of found results is shown above the Results list.

TIP If results are not found, click Advanced Search  in the Find palette, specify one or more additional options, and try again.

- 4 Click the desired result to display the found text or associated object on the canvas or in a palette.


Search Autodesk Seek

With Autodesk® Seek you can find and share product design information with the online design community to enhance designs and to meet specific customer needs. It allows designers to search for, download, and integrate generic or manufacturer-specific building products or components and associated design information.

IMPORTANT Accessing and searching Autodesk Seek requires an active Internet connection.

NOTE Autodesk Seek is currently available in US English only.

To display the Autodesk Seek home page

- Click Home tab ► Search panel ► Seek design content.  Seek design content
A new browser window opens displaying the Autodesk Seek home page.
On the Autodesk Seek home page, enter one or more terms into the search box and click the Search button.

Search Autodesk Seek

Autodesk® Seek supports parametric searches, meaning that the search results returned are more or less specific depending on what you enter in the search text box. More search terms return fewer results.

Filtering Search Results

After you have searched for product information, you can reduce the number of displayed results by applying filters. On the Autodesk Seek web page, apply filters to narrow the results of a search.

Available filters depend on information supplied by content providers when the design files are added to the Autodesk Seek website.

Use Published Hyperlinks

Some DWF files published by AutoCAD, Inventor, and Revit have [hyperlinks](#) on page 301 embedded in them, connecting them to other views, drawings, 3D models, web pages, or other data such as parts lists or bills of material.

Some hyperlinks link to multiple locations. When you place the mouse pointer over a hyperlink, a hyperlink viewport is displayed. If more than one destination exists, the viewport displays “Multiple URLs - Ctrl-click to follow link”. When you press Ctrl and click, the viewport displays a list of the links you can follow from the current hyperlink.

To show or hide hyperlinks

- 1 Click Home tab ► expand the View panel.
- 2 Click Show Hyperlinks.

If there are hyperlinks on the sheet, [objects](#) on page 302 and text that do not have hyperlinks turn grayscale (black and white), and objects or text with hyperlinks are typically highlighted in blue.

To hide hyperlinks, repeat this step. The grayscale returns to color, and the highlighting on hyperlinks are turned off.

To follow a hyperlink

- Press and hold Ctrl and click the hyperlink (Ctrl-click).

The zoomed view, drawing, model, or web page to which it was linked opens. If the link is to a table or list, the pane that it opens in becomes active.

NOTE If you follow a hyperlink to a table, you may need to resize the Grid Data palette to view the table.

You can choose to follow included links or not, but you cannot change the hyperlinks in the published DWF file.

See also:

- [Hyperlink Settings](#) on page 269
- [Hyperlinks in Tables](#) on page 136

View DWF Files

Change 2D Sheet Views


6

View a DWF File in Grayscale or Black and White


When you open a DWF file, it is displayed on the canvas with the color properties that were set when it was published. However, you can view the sheets in either shades of gray or black and white.

NOTE The 3D DWF files are shown in grayscale, even if Black & White is selected.

To view a DWF file in shades of gray

- 1 Click Home tab ► expand the View panel.
- 2 From the Color Depth drop-down list, select Grayscale. 
The sheets are shown on the canvas in grayscale.

To view a DWF file in black and white


- 1 Click Home tab ► expand the View panel.
- 2 From the Color Depth drop-down list, select Black & White. 
The sheets are shown on the canvas in black and white.


Pan and Zoom the View of the Canvas

You can change how a sheet or model is displayed on the canvas using the Pan and Zoom tools. Panning repositions a sheet or model on the canvas. Zooming in makes the canvas contents appear larger, while zooming out makes the canvas contents appear smaller. Pan and Zoom do not affect the contents of the DWF file being viewed. Only the view of the content changes.

NOTE When a markup is created, the current zoom and pan settings are stored with that markup.

To pan the view of the canvas


- 1 On the Canvas toolbar, click Pan. 


The mouse pointer changes to the Pan tool. 

- 2 Click and drag the mouse pointer to move the view parallel to the screen.

TIP You can also use the arrow keys to pan the view of the canvas.

To zoom the view of the canvas

- 1 On the Canvas toolbar, click Zoom. 

The mouse pointer changes to the Zoom tool. 


- 2 Click and drag the mouse pointer upward to zoom in or downward to zoom out.

TIP With the Zoom tool active, you can also click the canvas to zoom in and Alt-click the canvas to zoom out.


The dragging direction can be switched by changing the Zoom tool settings on the General tab in the Options dialog box.

TIP You can also roll the mouse wheel forward to zoom in and backward to zoom out.

To fit the content to the window

- On the Canvas toolbar, click Fit to Window. 
For 2D content, the canvas view changes to show the greatest possible magnification that still shows all content. For 3D content, the canvas view centers on the model.

To zoom in on a particular area

- 1 On the Canvas toolbar, click Zoom Rectangle. 
The mouse pointer changes to a magnifying glass with a rectangle.



- 2 Click the canvas to define one corner of the rectangle.
- 3 Drag the mouse pointer diagonally to define the rest of the rectangular area.
When viewing 3D objects, as you drag the mouse pointer, a circle displays in the middle of the rectangular area. The circle defines the new rotation target, or pivot.
The view changes to display only the contents in the rectangular area you defined.

To show the previous view

- 1 Click Home tab ► expand the View panel.
- 2 Click Previous View.
The previous view is shown.

To show the next view

- 1 Click Home tab ► expand the View panel.
- 2 Click Next View.
The next view in the sequence is shown.

To show or hide the canvas background in a 2D DWF file

- 1 Click Home tab ► expand the View panel.
- 2 Click Show Canvas Background.
If the canvas background was shown, it is hidden. If the canvas background was hidden, it is shown.

TIP To change the background of a 3D DWF file, in the Options dialog box, on the Model tab under Color Settings, uncheck Use Gradient Background.

See also:

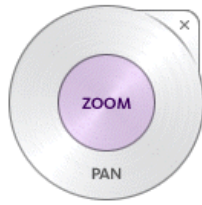
- [Change the Rotation Target Point](#) on page 74
- [Changing Design Review Options](#) on page 267
- [Use the 2D Navigation Wheel](#) on page 66
- [Change 3D Model Views](#) on page 71
- [Quick Reference Guide](#) on page 281

Use the 2D Navigation Wheel

Autodesk® SteeringWheels®, or wheels, are part of the Design Review user interface and provide several ways to change the view. Like a toolbar, each SteeringWheel provides easy access to many related tools.

The 2D Navigation Wheel is a [tracking menu](#) on page 303, meaning, when enabled, it tracks, or follows, the mouse pointer within the canvas. The 2D Navigation Wheel saves you time and clicks by combining Pan and Zoom in a single tool.




NOTE The 2D Navigation Wheel is the only SteeringWheel available when viewing 2D content.




2D Navigation Wheel

Right-clicking the 2D Navigation Wheel provides access to additional commands.

2D Navigation Wheel Menu Commands

Icon	Menu Choice	Description
	Go Home	Reset the view to the original, published view.
	Fit to Window	Zoom the view to fit the object on the canvas.
	Help	Open the Design Review Help file.
	Options	Open the Options dialog box SteeringWheels tab.

To display the 2D Navigation Wheel

- 1 On the Canvas toolbar, click the SteeringWheel button drop-down. 
- 2 Select 2D Navigation Wheel.
The 2D Navigation Wheel is shown and follows the mouse pointer on the canvas.

To pan the view of the canvas using the 2D Navigation Wheel

- 1 Click and hold the Pan wedge.

The mouse pointer changes to the Pan tool.



- 2 Drag the mouse pointer to move the view parallel to the screen.
- 3 Release the mouse button to exit the Pan tool.

To zoom the view of the canvas using the 2D Navigation Wheel

- 1 Click and hold the Zoom wedge.

The mouse pointer changes to the Zoom tool.



- 2 Drag the Zoom tool upward to zoom in, or downward to zoom out.
- 3 Release the mouse button to exit the Zoom tool.

See also:

- [Pan and Zoom the View of the Canvas](#) on page 64
- [SteeringWheels Tab \(Options Dialog Box\)](#) on page 272

Reset the View

Sometimes you want to return the view to the way the person who published the DWF file intended. To do that, reset the view. When you reset a view in Design Review you have two choices: the home view and the starting view. The home view is a particular view of a file defined by the designer before publishing the DWF file. Designers often set a home view to show a part or design a certain way to reviewers. The starting view is the view that happened to be displayed at the time the designer published the file.

If the file has no specified home view, the starting view is shown. If the designer had the home view displayed at the time the DWF file was published, the starting and home view are the same in Design Review.

To reset the view to the home view

- On the Canvas toolbar, click Home.




- For 3D content, on the ViewCube, click Home. 

The view returns to the particular view defined by the designer.

To reset the view to the starting view

- 1 Click Home tab ► expand the View panel.



- 2 Click Starting View. 

The view returns to the view that was displayed at the time the designer published the file.

TIP For 3D content, you can also right-click the ViewCube and select Starting View.

Rotate 2D Sheets

Design Review enables you to rotate 2D content, including sheets and [raster images](#) on page 302. In the Thumbnails or List View palette, you can select a sheet and spin it in 90-degree increments, right or left.



The Rotate Sheet Right  and Rotate Sheet Left  tools have some noteworthy limitations.

- 2D sheets with markups cannot be rotated. After markups have been added to the content, Rotate menus and buttons are disabled.
- 3D sheets cannot be rotated.
- Tabular data cannot be rotated.
- Multiple sheets cannot be rotated.
- A DWF file containing rotated sheets does not display as expected when it is brought back into a publishing program, such as AutoCAD.

TIP When a selected sheet is rotated, the canvas content and the icon in the Thumbnails palette are rotated at the same time.

To rotate 2D content

- 1 In the Thumbnails or List View palette, select the 2D sheet you want to rotate.
- 2 Rotate the selection in the desired direction.

- Click Tools tab ► Canvas panel ► Rotate Sheet Right  or Rotate Sheet Left. 
The selected sheet rotates 90°.

See also:

- [About Opening Image Files](#) on page 48
- [Rotate Markup Objects](#) on page 195

Change 3D Model Views

7

About 3D DWF Files

A 3D DWF file is one that contains at least one 3D model. A 3D model is a meaningful set of geometrical shapes. Geometrical shapes can be combined into meaningful sets, known as “assemblies,” “blocks,” or “objects.” A company may collect these objects for frequent reuse (electrical parts, mechanical parts, plumbing, or furniture), as they can be plugged into larger drawings or models. A series of doors, for example, can be plugged into various architectural renderings.

Each object may include smaller objects, sometimes called subobjects. Each subobject, in turn, may be referred to as an object that may contain other subobjects. For instance, a truck object may have several door subobjects that each contains several door handle subobjects. It is relative. The relationship between an object and its subobjects is displayed in the hierarchical tree view in the Model palette.

NOTE AutoCAD and Inventor do not share a common [WCS](#) on page 303 (World Coordinate System) with Design Review. In AutoCAD and Inventor, Z is up. In Design Review, Y is up.

In certain cases, your graphics card may cause problems. For example, a model may be displayed incorrectly on the screen. If you experience display problems, on the Model tab of the Options dialog box, you can adjust the View Settings.

Use Perspective View

By default, all 3D views appear as orthographic views, in which all lines on each axis are parallel to each other. You can add perspective to the views, which

shows parallel lines converging to give the illusion of depth. Only orthographic views are appropriate for measuring.

To turn on Perspective

1 Click Home tab ► expand the View panel.

2 Click Perspective.

The view changes to a perspective view.

Repeat these steps to turn off the perspective view for the 3D content.

TIP You can also right-click the ViewCube to switch between Perspective and Orthographic views.

See also:

- [View Settings](#) on page 270
- [ViewCube Menu](#) on page 78

Use Standard 3D Model Views

DWF files that include 3D models provide reviewers the ability to virtually manipulate objects (or structures), create cross sections, add markup, or tour the interior of architectural models. With Design Review, you can change the view of a model to a standard view by selecting a view from the Standard Views drop-down on the Home tab ► View panel.

Standard 3D Model Views



Front Top Left



Front Top Right



Front Bottom Left



Front Bottom Right



Front



Back



Top



Bottom



Left



Right

To select a standard view

- 1 Click Home tab ► View panel ► Standard Views drop-down.
- 2 Select the desired view.

TIP You can also use the ViewCube to change 3D model views quickly.

See also:

- [Shade 3D Objects](#) on page 98
- [Use Perspective View](#) on page 71
- [Use the ViewCube](#) on page 76

Orbit the View Around a 3D Model

When you use the Orbit tool to change the view of a 3D model, you move the camera location (the point of view) around a stationary, green spherical rotation target, called the Pivot. Generally the Pivot is the center of the object in view. However, if you use the Zoom Rectangle tool or some 3D SteeringWheel tools, the Pivot changes.

You can rotate the 3D Orbit view several ways:



Rotate. Click and drag in any direction to rotate the view around the model.



Rotate Horizontally. Press and hold Shift, click, and drag. The rotation is horizontally constrained.





Rotate Vertically. Press and hold Ctrl, click, and drag. The rotation is vertically constrained.



Rotate Parallel to the Screen. Press and hold both Ctrl and Shift, click, and drag. The rotation is constrained to a plane that is parallel to the screen.

To rotate the view of a model

- 1 On the Canvas toolbar, click Orbit. 


The mouse pointer changes to the Orbit tool. 

TIP You can also right-click the canvas and select Orbit.

- 2 Click and drag to rotate the view of the model.

In the 3D Orbit view, the Pivot is the center of the objects in view.

To change the Pivot location using the Zoom Rectangle tool

- 1 On the Canvas toolbar, click Zoom Rectangle. 

The mouse pointer changes to the Zoom Rectangle tool.



TIP You can also right-click the canvas and select Zoom Rectangle.

- 2 Click the canvas to define one corner of the rectangle.
- 3 Drag the mouse pointer diagonally to define the rest of the rectangular area. As you drag, a circle displays in the middle of the rectangular area. The circle defines the new Pivot location.
- 4 Release the mouse button. The drawing is zoomed to the area that you defined with the rectangle, and the Pivot is changed to the area defined by the circle.

See also:

- [Change 3D Views with the View Object Wheel](#) on page 85

Spin the View of a 3D Model

An alternative to the Orbit tool, the Turntable tool is intended for people viewing 3D architectural models, when it is desirable to have the vertical axis locked such that the model cannot be flipped. The Turntable tool enables you to examine a model or object while maintaining the view aspect relative to its base, or the ground, as defined by the DWF publisher.

The Turntable tool prevents the camera angle pass beyond the vertical plane when rotating horizontally. The maximum camera angle from the horizon is 90° (above or below) to help maintain the defined orientation of the model.

TIP Use the Pan and Zoom tools to prepare the view before starting the Turntable tool.

To spin the view of a 3D model

- 1 On the Canvas toolbar, click Turntable.



The mouse pointer changes to the Turntable tool.



TIP You can also right-click the canvas and select Turntable.

- 2 Change the view of the 3D model horizontally or vertically.
 - Click and drag left or right to spin the view of the model around its vertical axis. This enables you to view the entire outer surface of a 3D model while maintaining a constant distance and viewing angle.
 - Click and drag up or down to spin the view of the model around its horizontal axis. This enables you to view the model from the top down or from the bottom up.

To constrain the Turntable tool

- Press and hold Shift and click and drag horizontally or vertically to limit rotation to a restricted linear path along one of these planes.

The Turntable tool remains active until you press Esc or select another tool.

Use the ViewCube

About the ViewCube

The Autodesk® ViewCube® 3D navigation widget is a persistent, clickable interface that provides a reference to the current orientation of the model and allows you to switch between standard and isometric views quickly.

When the ViewCube is displayed, it is shown in one of the corners of the canvas, over the model, in an inactive state. While the ViewCube is inactive, it provides a visual reference about the current view of the model as view changes occur. When the mouse pointer is positioned near the ViewCube, it becomes active and allows you to switch to one of the available preset views, roll the view, or return to the Home or Starting View of the model.

Some other Autodesk products have also incorporated the ViewCube user interface. For 3D DWF files published from these applications, the ViewCube views in Design Review are the same as the ViewCube views that the designers have in their authoring applications.



The ViewCube

The ViewCube may include a compass ring, displayed below the cube. When a designer, working in an Autodesk design application such as Revit or AutoCAD, includes this ViewCube element, it is displayed in Design Review as part of the ViewCube. The compass, like the ViewCube itself, can be dragged to manipulate the model on the canvas, or you can click the cardinal headings for North, East, South, or West (N, E, S, or W, respectively) to pan to that view immediately.

As a part of the ViewCube, the compass cannot be shown or hidden independently. If you hide the ViewCube, the compass, if present in the file, will also be hidden.







The ViewCube with the compass

ViewCube Orientation

The ViewCube is oriented to the currently selected [UCS](#) on page 303, when one is active. When no UCS is active, the ViewCube is oriented to the [WCS](#) on page 303. This setting can be changed to orient the ViewCube to the WCS, on the ViewCube tab in the Options dialog box.

ViewCube Menu

Click the ViewCube menu button  to perform additional operations, change the displayed view projection, or access the Options dialog box.

Button	Description
	Previous View. Switch to previous view of content
	Next View. Switch to next view of content
	Starting View. Switch to the initial view of the model. The Starting View is the view that a DWF file publisher had displayed at the time the file was published. If the designer had their Home view displayed at the time the file was published to DWF, the Starting View and Home view will be the same in Design Review.
	Home. Switch to the Home view of the model as defined by the designer in the authoring application. If the file has no specified Home view, the Starting View will be used.
	Perspective. Switch between Perspective and Orthographic views.
	Options. Opens the Program Options dialog box with the ViewCube tab displayed.

TIP You can also right-click the ViewCube to display the menu.

Control the Appearance of the ViewCube

The ViewCube is displayed in one of two states: inactive and active. When the ViewCube is inactive, it is transparent so that the view of the model is not obscured. When the ViewCube is active, it appears opaque and may obscure the area of the canvas and any objects behind it.

Typically the ViewCube is displayed in the inactive state. When the mouse pointer is near the ViewCube it becomes active, allowing selection of the various ViewCube elements.

In the Options dialog box, on the ViewCube tab, you can set the inactive opacity of the ViewCube as well as its size, on-screen position, and other settings.

See also:

- [Add a User Coordinate System](#) on page 218
- [ViewCube Tab \(Options Dialog Box\)](#) on page 273

Change Views with the ViewCube


Regardless of the tool you are currently using, you can use the ViewCube to change the view of the model.

To change views with the ViewCube

When you move the mouse pointer over the ViewCube, regions of the cube are highlighted. The highlighted areas of the ViewCube correspond to the standard 3D model views, as well as edge views such as Top-Front, or Back-Left.

- Click the ViewCube to pan to the selected view immediately.


To reset the view to the designer assigned home view

- Above the ViewCube, click the Home button.  The model returns to the Home view.

The ViewCube home view in the DWF file can be assigned by the designer to be the same as the ViewCube home view in the authoring application. If a home view is not specified in the file, clicking the Home button returns to the starting, or initial, view.

TIP You can also right-click the ViewCube and select either Starting View or Home (view).

To view adjacent faces



When viewing a face view, the four small arrows surrounding the ViewCube can be used to rotate the object to an adjacent face view. For example, when viewing the Front face, click the arrow to the left of the ViewCube  to see the Left face view.

- Click an Adjacent Face Arrow to pan to that face view.



ViewCube face view with Adjacent Face Arrows, Roll Arrows, and Home button displayed

To roll a face view

The Roll Arrows near the top, right corner of the ViewCube roll the current face view 90°, counter-clockwise , or clockwise , each time one is clicked.


NOTE The roll arrows are displayed in different positions, relative to the ViewCube, when the ViewCube location is changed.

- Click a Roll Arrow to rotate the view 90°.

To orbit an object with the ViewCube

- Click and drag the ViewCube in any direction.

To hide the ViewCube

- 1 Click Home tab  expand the View panel.
- 2 Uncheck Show ViewCube.
The ViewCube is hidden.

TIP You can also enable or disable the ViewCube from the ViewCube tab in the [Program Options](#) on page 273 dialog box.

Examine Individual Objects with the ViewCube

When the ViewCube [Fit-to-View on View Change](#) on page 274 option is enabled, clicking the ViewCube pans and zooms the view to fit the model, or any currently selected part or subobjects, to the canvas. Use the ViewCube, after pulling a part a model using the Move & Rotate tool, to more closely examine the part or parts you have moved.

To use the ViewCube to examine an individual object

- 1 Select a part in the Model palette, or by clicking one on the canvas using the Select tool.
- 2 Click the desired view on the ViewCube.
The selected object is displayed centered and zoomed on the canvas.

If the view of the selected object is obscured by other parts of the model, you can hide the obstructions.

To disable Fit-to-View on View Change

- 1 Click the application button ► Options.
- 2 On the ViewCube tab, uncheck the Fit-to-View on View Change option.
- 3 Click OK.

See also:

- [Change the Visibility of Objects and Subobjects](#) on page 97
- [Pull Apart 3D Models](#) on page 103

Use the 3D SteeringWheels

Autodesk® SteeringWheels®, or wheels, are part of the Design Review user interface and provide several ways to change the view. Like a toolbar, each

SteeringWheel provides easy access to many related tools. The tool buttons on the wheel are called [wedges](#) on page 303. Design Review has several SteeringWheels: the 2D Navigation Wheel, View Object Wheel, the Tour Building Wheel, and the Full Navigation Wheel.

Additionally, the 3D wheels have “Mini Wheel” variants. The Mini Wheels contain most of the same tool wedges as their full-size counterparts and can be also be accessed from the Canvas toolbar and wheel right-click menu locations.

All of the wheels are [tracking menus](#) on page 303 because they track, or follow, the mouse pointer within the canvas when a wheel is enabled. The tools vary depending on which SteeringWheel is shown.


Of the available 3D SteeringWheels, two are sometimes referred to as Easy Wheels: the View Object Wheel and the Tour Building Wheel. As their names imply, each Easy Wheel is intended to make it easier for reviewers who have little or no experience manipulating 3D objects on screen to view particular types of models. Unlike the Easy Wheels, the Full Navigation Wheel contains the complete Easy Wheel toolsets and more. The Full Navigation Wheel is intended for more advanced users of Design Review.

By default, when you view a 3D model, the Full Navigation Wheel is displayed, pinned, in the lower-left corner of the canvas. As you move the mouse pointer over the pinned wheel, a tabbed dialog box is displayed. The tabs are labeled “New to 3D” and “Familiar with 3D”. Click either tab to see information about the various SteeringWheels that are available.

On the Familiar with 3D tab, in addition to the Full Navigation Wheel, you have the option of selecting one of the three Mini 3D Wheels. The Mini Wheels most of the same tool wedges as their full-size counterparts. The main difference of with the Mini Wheels, is that the wheel is also the mouse pointer.

To unpin a SteeringWheel

- 1 Move the mouse pointer over the wheel that is pinned to the canvas to display the SteeringWheels dialog box.
- 2 Click either the New to 3D tab or the Familiar with 3D tab.
- 3 Click a wheel to activate it.

TIP You can also click the pinned wheel itself, or click the SteeringWheel drop-down button  on the Canvas toolbar and select a wheel.


To start Design Review with no pinned SteeringWheel displayed

- 1 Click the application button ► Options.
- 2 On the Steering Wheel tab, in the Display group, uncheck Display the Pinned Wheel on Startup.
- 3 Click OK.

The next time Design Review starts, no wheel will be pinned to the canvas.






NOTE To display the pinned wheel, follow these steps but check the Display the Pinned Wheel at Startup option. The next time you start Design Review, and view a 3D model, the wheel will be pinned to the canvas.






To access the Wheel Menu

- In the lower, right corner of a wheel, click the Wheel Menu button. 

TIP You can also right-click anywhere on a wheel to access the menu.


3D SteeringWheel Menu Commands

Icon	Menu Choice	Description
	2D Navigation Wheel	This button is unavailable. The 2D Navigation Wheel is not available when viewing 3D content.
	View Object Wheel	Switch to the View Object Wheel.
	Tour Building Wheel	Switch to the Tour Building Wheel.
	Full Navigation Wheel	Switch to the Full Navigation Wheel.
	Mini View Object Wheel	Switch to the Mini View Object Wheel.

Icon	Menu Choice	Description
	Mini Tour Building Wheel	Switch to the Mini Tour Building Wheel.
	Mini Full Navigation Wheel	Switch to the Mini Full Navigation Wheel.
	Go Home	Switch to the Home view of the model as defined by the designer in the authoring application. If the file has no specified Home view, the Starting view is used.
	Fit to Window	Zoom the view to fit the object on the canvas.
	Level Camera*	Rotate the camera angle to zero degrees on the X-axis.
	Increase Walk Speed*	Incrementally increase the speed of the Walk tool.
	Decrease Walk Speed*	Incrementally decrease the speed of the Walk tool.
	Constrain Walk to Ground Plane*	Keep the camera level with the ground while using the Walk tool. Checked by default. This option can also be set on the SteeringWheel tab in the program Options dialog box.
	Invert Axis*	Invert the Look tool axis. This option can also be set on the SteeringWheel tab in the program Options dialog box.
	Restore Original Center	Restore the default Pivot location.
	Help	Open the Design Review Help file.
	Options	Open the Options Dialog box SteeringWheels tab.

Icon	Menu Choice	Description
	Close Wheel	Exit the SteeringWheel and switch to the Orbit tool.

To close a SteeringWheel

- In the upper, right corner of a wheel, click the Close button. 

NOTE If the wheel is pinned, you must make it active before you can close it.

See also:

- [2D Navigation Wheel](#) on page 66
- [Change 3D Views with the View Object Wheel](#) on page 85
- [Change 3D Views with the Tour Building Wheel](#) on page 88
- [Change 3D Views with the Full Navigation Wheel](#) on page 90
- [SteeringWheels Tab \(Options Dialog Box\)](#) on page 272
- [Restore Default Options](#) on page 277

Change 3D Views with the View Object Wheel

The View Object Wheel, one of the Easy Wheels, contains tools that are commonly used when viewing assemblies or individual parts. The View Object Wheel is only available when 3D content is displayed on the canvas.





View Object Wheel

View Object Wheel Wedges

Wedge	Description
Center	Redefine the center of rotation for the object.
Zoom	Dynamically zoom the view.
Rewind	Return to a previous view.
Orbit	Orbit the view of the object.

To display the View Object Wheel

- 1 On the Canvas toolbar, click the SteeringWheel drop-down. 
- 2 Select View Object Wheel. 
The wheel appears and follows the mouse pointer on the canvas.

To change the Pivot location using the Center wedge

- 1 On the View Object Wheel, click and hold the Center wedge to display the Pivot location.
The mouse pointer changes to the Center tool.

NOTE The Pivot sphere only appears when the mouse pointer is over an object. When the tool is not over geometry, a circle with a line through it is displayed.

- 2 Drag the Pivot to the location around which you would like to orbit.

- 3 Release the mouse button to change the Pivot location.
The view pans to show the new Pivot location at the center of the canvas.

TIP You can also change the Pivot location by clicking the Zoom wedge.

The new Pivot location will be used the next time you orbit the model using the Orbit tool, the ViewCube, or the Orbit wedge on one of the 3D SteeringWheels.

NOTE You can restore the original Pivot location by right-clicking the SteeringWheel and choosing Restore Original Center.

To zoom the view

- 1 Click and hold the Zoom wedge.
The mouse pointer changes to the Zoom tool.
- 2 Drag the Zoom tool upward to zoom in dynamically, or downward to zoom out dynamically.
- 3 Optional: Click the Zoom wedge once to zoom in incrementally.

TIP Press and hold Shift and click the Zoom wedge once to zoom out incrementally.

- 4 Release the mouse button to exit the Zoom tool.

To return to a previous view

- 1 Click and hold the Rewind wedge.
A series of thumbnails is displayed. New thumbnails are created each time you release the mouse button when using any 3D SteeringWheel.
- 2 Move the Rewind tool over the thumbnails. As you do so, each of the views is displayed on the canvas.
- 3 Release the mouse button to return to the desired view.

TIP Click the Rewind wedge once to rewind a single view only.

To orbit the view of the model

- 1 Click and hold the Orbit wedge.

The mouse pointer changes to the Orbit tool and the Pivot is displayed.

- 2 Drag the Orbit tool in any direction to change the view.

NOTE If you redefined the center of rotation using the Center tool, the camera will orbit around that point. If you did not redefine the center of rotation, the camera will orbit around the default Pivot location.

- 3 Release the mouse button to exit the Orbit tool.

See also:

- [Use the 3D SteeringWheels](#) on page 81
- [SteeringWheels Tab \(Options Dialog Box\)](#) on page 272

Change 3D Views with the Tour Building Wheel

The Tour Building Wheel, one of the Easy Wheels, contains tools used to conduct a virtual walk-through. The Tour Building Wheel is only available when 3D content is displayed on the canvas





Tour Building Wheel

Tour Building Wheel Wedges

Wedge	Description
Forward	Move the camera forward within the model.
Look	Turn the camera to look in any direction without moving the camera.
Rewind	Return to a previous view.
Up/Down	Change the elevation of the camera within the model.

To display the Tour Building Wheel

- 1 On the Canvas toolbar, click the SteeringWheel drop-down. 
- 2 Select Tour Building Wheel. 
The wheel appears and follows the mouse pointer on the canvas.

To move the camera forward

- 1 Click and hold the Forward wedge.
A target sphere is displayed on the surface under the mouse pointer.

NOTE The target sphere only appears when the mouse pointer is over an object. When the pointer is not over the model, there is no reference point for the camera to move toward.

- 2 Drag the mouse pointer to move the camera toward, or away from, the target sphere.
A vertical slider provides an indication of how far from the start position the camera has been moved.

TIP You can move the slider beyond both the Surface and Start points.

- 3 Release the mouse button, when you have moved the camera the desired distance, to exit the Forward tool.

To look around the view without moving the camera

- 1 Click and hold the Look wedge.
The mouse pointer changes to the Look tool.
- 2 Drag the Look tool in any direction to point the camera in that direction.

TIP On the SteeringWheel tab in the Options dialog, you can invert the vertical axis for the Look tool.

- 3 Release the mouse button to exit the Look tool.

To return to a previous view

- 1 Click and hold the Rewind wedge.

A series of thumbnails is displayed. New thumbnails are created each time you release the mouse button when using any 3D SteeringWheel.

- 2 Move the Rewind tool over the thumbnails. As you do so, each of the views is displayed on the canvas.
- 3 Release the mouse button to return to the desired view.

TIP Click the Rewind wedge once to rewind a single view only.

To change the camera elevation

- 1 Click and hold the Up/Down wedge.
A vertical slider is displayed.
- 2 Drag the mouse pointer to increase or decrease camera elevation.

NOTE If you are viewing a model of a multistory building, the Up/Down tool passes through floors and ceilings.

- 3 Release the mouse button to set the camera elevation.

See also:

- [Use the 3D SteeringWheels](#) on page 81
- [SteeringWheels Tab \(Options Dialog Box\)](#) on page 272

Change 3D Views with the Full Navigation Wheel

The Full Navigation Wheel, which is intended for more advanced reviewers, combines all the tools of the two Easy Wheels. You can use this wheel to examine 3D objects or conduct a virtual walk-through of architectural models. The Full Navigation Wheel is only available when 3D content is displayed on the canvas.




Full Navigation Wheel

Full Navigation Wheel Wedges

Wedge	Description
Zoom	Dynamically zoom the view.
Orbit	Orbit the view of the object.
Center	Set a new center point around which the model rotates using the Orbit tool.
Walk	Move the camera within the model.
Look	Turn the camera to look in any direction without moving the camera.
Up/Down	Change the elevation of the camera within the model.
Rewind	Return to a previous view.
Pan	Move the view parallel to the screen.

To display the Full Navigation Wheel

1 On the Canvas toolbar, click the SteeringWheel drop-down. 

2 Select Full Navigation Wheel. 

The wheel appears and follows the mouse pointer on the canvas.

To zoom the view

- 1 Click and hold the Zoom wedge.
The mouse pointer changes to the Zoom tool.
- 2 Drag the Zoom tool upward to zoom in dynamically, or downward to zoom out dynamically.
- 3 Optional: Click the Zoom wedge once to zoom in incrementally.

WARNING The Full Navigation Wheel Zoom tool also sets a new Pivot location.

- 4 Release the mouse button to exit the Zoom tool.

TIP Press and hold Shift and click the Zoom wedge once to zoom out incrementally.

To zoom the view without changing the Pivot location

- Press and hold Ctrl and click the Zoom wedge.
The view zooms incrementally in toward the current Pivot location.

To orbit the view of the object

- 1 Click and hold the Orbit wedge.
The mouse pointer changes to the Orbit tool and displays the Pivot location.
The Pivot location may differ from the default if you set a new target with the Center tool, or if you used the Full Navigation Wheel Zoom tool.
- 2 Drag the Orbit tool to move the camera view around the Pivot.

NOTE When viewing the interior of an architectural model, you may find it easier to use Zoom, Pan, Walk, or Look tools to change the view.

- 3 Release the mouse button to exit the Orbit tool.

To change the Pivot location using the Center wedge

- 1 On the Full Navigation Wheel, click and hold the Center wedge to display the Pivot location.

The mouse pointer changes to the Center tool.

NOTE The Pivot sphere only appears when the mouse pointer is over an object. When the tool is not over geometry, a circle with a line through it is displayed.

2 Drag the Pivot to the location around which you would like to orbit.

3 Release the mouse button to change the Pivot location.

The view pans to show the new Pivot location at the center of the canvas.

TIP You can also change the Pivot location by clicking the Zoom wedge.

The new Pivot location will be used the next time you orbit the model using the Orbit tool, the ViewCube, or the Orbit wedge on one of the 3D SteeringWheels.

NOTE You can restore the original Pivot location by right-clicking the SteeringWheel and choosing Restore Original Center.

To move the camera

1 Click and hold the Walk wedge.

The mouse pointer changes to the Walk tool.

2 Drag the mouse pointer in any direction to move the camera. For example, drag upward to walk forward, or downward to walk backward.

TIP You can set whether the Walk tool is constrained to the ground plane on the SteeringWheels tab in the Options dialog box.

3 Release the mouse button to exit the Walk tool.

Change the movement speed

You can change the speed at which you move through a model when using the Walk tool.

NOTE The Walk tool must be active to change the movement speed.

To increase or decrease walk speed

- Right click the SteeringWheel and select Increase Walk Speed or Decrease Walk Speed.

To change the camera elevation while using the Walk tool

- 1 While using the Walk tool, press Shift to display the Up/Down slider.
- 2 Drag up or down to change the elevation of the camera.

TIP Make minor camera height changes while walking by pressing the up or down arrows.

To look around the view without moving the camera

- 1 Click and hold the Look wedge.
The mouse pointer changes to the Look tool.
- 2 Drag the Look tool in any direction to point the camera in that direction.

TIP When the Look tool is enabled, you can move the camera by pressing the arrow keys.

- 3 Release the mouse button to exit the Look tool.

To change the camera elevation

- 1 Click and hold the Up/Down wedge.
A vertical slider is displayed.
- 2 Drag the mouse pointer to increase or decrease camera elevation.

NOTE If you are viewing a model of a multistory building, the Up/Down tool passes through floors and ceilings.

- 3 Release the mouse button to set the camera elevation.

To return to a previous view

- 1 Click and hold the Rewind wedge.
A series of thumbnails is displayed. New thumbnails are created each time you release the mouse button when using any 3D SteeringWheel.

- 2 Move the Rewind tool over the thumbnails. As you do so, each of the views is displayed on the canvas.
- 3 Release the mouse button to return to the desired view.

TIP Click the Rewind wedge once to rewind a single view only.

To pan the view

- 1 Click and hold the Pan wedge.
The mouse pointer changes to the Pan tool.
- 2 Drag the Pan tool to move the view parallel to the screen.
- 3 Release the mouse button to exit the Pan tool.

See also:




- [Use the 3D SteeringWheels](#) on page 81
- [SteeringWheels Tab \(Options Dialog Box\)](#) on page 272

Control the Appearance of 3D Objects

8

Change the Visibility of Objects and Subobjects

You can change the visibility of objects or subobjects by hiding them, making them transparent, or isolating them. When you change the visibility of an object, the icon in the Model palette and the object itself on the canvas reflect the change.

Tool	Description
	Hide. The selected objects are not visible.
	Hide Others. Only the selected objects are visible.
	Transparent. The selected objects are faintly visible.
	Invert Selection. Click the objects that you do not want selected. All the others are selected.

To change the visibility of an object

- In the Model palette or on the canvas, right-click an object or subobject and select Hide, Hide Others, or Transparent.

On the canvas, the object is shown with the desired effect. In the Model palette, the object icon also reflects the change.

To show all hidden objects in the model




- In the Model palette or on the canvas, right-click and select Show All. On the canvas, all hidden objects are shown as originally published. In the Model palette, the object icons reflect the change.

Shade 3D Objects

Objects are shaded by default.

To change the shading of objects

- 1 Click Home tab ► View panel ► Shading/Edges drop-down.
- 2 Select the desired shading option.

Tool	Description
	Shaded. Shades the objects with a smoother, more realistic appearance.
	Edges Only. Displays objects with lines and curves.
	Shaded with Edges. Combines the shading and edges.

View Shadows for 3D Objects

Design Review can show shadows for 3D models. When you view a 3D model in Design Review, you can enable shadows to enhance your understanding of the object being reviewed.

By default, shadows are disabled. When enabled, shadows are visible for all items displayed on the canvas. If you choose to hide objects or subobjects, or

to make some parts transparent, the shadows displayed on the canvas reflect this choice.

The angle from which the shadows are cast is fixed and relative to the model. So when the light direction option is set to Top, the shadows are cast from the direction that is the “top” of the object as it was published. When viewing an object in Design Review, the object’s published “top” could be the side or the bottom face of the object.

If you have set the current model to view Edges Only, no shadows are displayed. Select Shaded or Shaded with Edges to see shadows.

NOTE If shadows are enabled when printing the DWF file, shadows are included in the print output.

To show or hide 3D shadows

1 Click Home tab ► expand the View panel.

2 Click Drop Shadows. 

Repeat this step to restore the shadows to their previous setting.

See also:

- [Drop Shadow Settings](#) on page 271
- [Shade 3D Objects](#) on page 98

Control Lighting Effects for 3D Objects

Design Review has predefined lighting schemes that offer variations in color and intensity. Selecting a different lighting option makes it easier to discern darker objects in a 3D model where the settings at the time the DWF file was created were optimized for the user working in the publishing application.


Lighting Effect	Description
Headlamp	A single bright light from the front. This is the default effect unless Published Lights exist.
Bright	Employs two lights and provides increased ambient brightness.

Lighting Effect	Description
Daylight	A single intense light from above with slight bluish tint from the side and below.
Night Time	Three lights in blues and purples to darken the model on the canvas.
Primary	Three opposed lights in primary colors.
Blue	A single intense blue light.
Red	A single intense red light.
Engineering	A single cool-white light from the front with less intense fill light from the side. Ambient light is increased to avoid pure black spaces.
Published Lights	Enables lighting effects created in the authoring application.

Lighting effects persist only as long as the DWF file is open in Design Review. If you exit Design Review and reopen the same file, or open the same file in a separate instance, you will have to reapply your preferred lighting effect. You can, however, save a view with applied lighting effects using My Views, or by creating markup.

NOTE When printing the DWF file or the currently loaded sheet, any lighting effect applied during the current session will be applied to the printed output.

To change the lighting effect

- 1 Click Home tab ► expand the View panel.
The current lighting effect is shown on the Lighting Effects drop-down list. 
- 2 From the Lighting Effects drop-down list, select the desired lighting effect. The selected lighting effect is applied to the model.

See also:

- [Save a View](#) on page 33
- [Markup 3D DWF Files](#) on page 197

Pull Apart 3D Models

9

Move and Rotate 3D Objects

Design Review enables you to move and rotate 3D objects using the Move &



Rotate tool.

By pulling a model apart, you can better view an object or see how an object fits into the larger model.


WARNING Design Review does not share a common WCS (World Coordinate System) with AutoCAD and Inventor. In Design Review Y is up, in AutoCAD and Inventor Z is up.

The Move & Rotate tool remains active. To use it again, click another object. If you click outside an object, the tripod is not visible because you have not selected an object. Once you click an object, the tripod is displayed again. The Move & Rotate tool also remains active after using the Print, Copy Current View, Fit to Window, Previous View, and Next View tools. To end the use of the Move & Rotate tool, click another tool or press Esc.

TIP Keep the tripod slightly oblique to the screen to facilitate moving or rotating the selection.

To move a 3D object

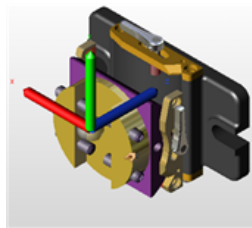
- 1 Click Tools tab ► 3D Tools panel ► Move & Rotate.

The mouse pointer changes to the Move & Rotate tool. 

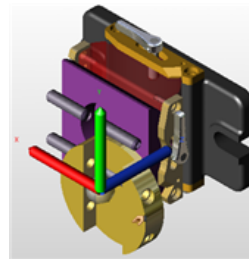
TIP You can also right-click the canvas and select Move & Rotate.

- 2 In the Model palette or on the canvas, click the object or objects that you want to move.
- 3 Drag the selection in any direction. If multiple objects are selected, drag the origin of the first object to move the entire selection.

TIP You can also use the arrow keys to move the view left, right, up, or down.




Begin move



End move

To move a 3D object along an axis

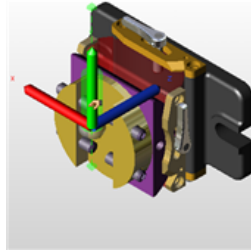
- 1 Click Tools tab ► 3D Tools panel ► Move & Rotate.

The mouse pointer changes to the Move & Rotate tool. 

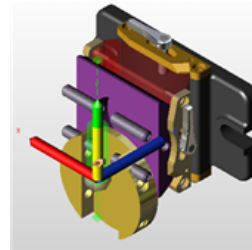
TIP You can also right-click the canvas and select Move & Rotate.

- 2 In the Model palette or on the canvas, click the object or objects that you want to move.
- 3 On the axis along which you want to move the object, click that axis near the origin.
- 4 Drag the axis in either direction to move the selection.

TIP You can also use the arrow keys to move a selected object along an axis.




Begin move



End move

To move a 3D object within a plane

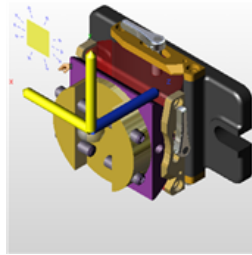
- 1 Click Tools tab ► 3D Tools panel ► Move & Rotate.

The mouse pointer changes to the Move & Rotate tool. 

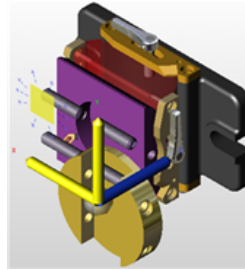
TIP You can also right-click the canvas and select Move & Rotate.

- 2 In the Model palette or on the canvas, click the object or objects that you want to move.
- 3 Rollover a plane defined by two axes until an indication of a plane with arrows is shown, and click.
- 4 Drag the selection in any direction.

TIP To see this feature more clearly, click Home tab ► expand the View panel, and click Perspective.




Begin move



End move

To move a 3D object parallel to the screen

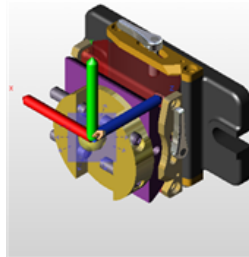
- 1 Click Tools tab ► 3D Tools panel ► Move & Rotate.

The mouse pointer changes to the Move & Rotate tool. 

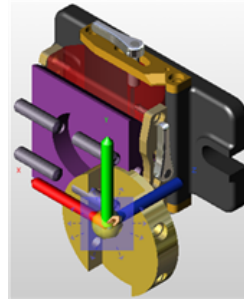
TIP You can also right-click the canvas and select Move & Rotate.

- 2 In the Model palette or on the canvas, click the object or objects that you want to move.
- 3 Click the tripod origin and drag the selection in any direction.

RELATED If you only want to move a single object parallel to the screen, you can click the part (to select it) and drag it immediately.




Begin move



End move

To rotate a 3D object

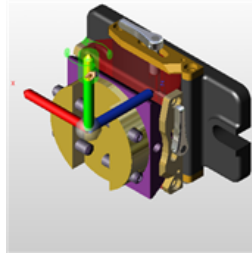
- 1 Click Tools tab ► 3D Tools panel ► Move & Rotate.

The mouse pointer changes to the Move & Rotate tool. 

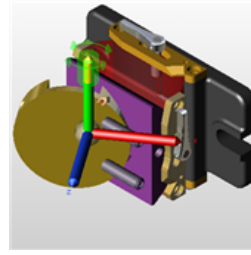
TIP You can also right-click the canvas and select Move & Rotate.

- 2 In the Model palette or on the canvas, click the object or objects that you want to rotate.
- 3 On the axis around which you want to rotate the object, click near the end of the axis.
- 4 Drag the selection around the axis.

TIP After clicking the end of the desired axis, use the Up and Down Arrows to rotate objects. Pressing and holding Shift while using the Up and Down Arrows or dragging the mouse rotates the object in 45° increments.



Begin rotation



End rotation

Once a DWF file is closed, moves and rotations are not saved.

To save a view of a moved or rotated object

- Save a view using My Views.
- Add a markup. The view can then be accessed from the Markups palette.


See also:

- [Reset 3D Objects](#) on page 108
- [About Coordinate Systems](#) on page 216
- [Use the Arrow Keys to Move and Rotate](#) on page 290
- [Views Palette](#) on page 32
- [Markup DWF Files](#) on page 159


Reset 3D Objects

After changes have been made to parts of a model, it is common to want to see a model the way it was originally published. View the original positions by resetting one object at a time or by resetting the entire model all at once. You have a few choices to reset 3D objects.

To return one 3D object to its original position

- In the Model palette, right-click a moved object and select Reset.
- With the Move & Rotate tool active, double-click a moved object on the canvas to reset it to its original position.
- Or, with a moved object selected, on the Model palette toolbar, click the Palette Options button  and select Reset.

To return all 3D objects in a model to their original positions

- In the Model palette, right-click the top-level assembly and select Reset.
- Or, with the top-level assembly selected, on the Model palette toolbar, click the Palette Options button  and select Reset.
- Right-click the ViewCube and select Starting View.

View Cross Sections of a 3D Model

10

Cross Section 3D Models

A cross section is a cut-away view of an object. Cross sections enable you to see inside 3D objects. You can create a cross section by cutting through a model or object using the section plane. The transparent section plane is the actual on-screen interface you can move to create a cross section. When you begin a cross section, a cross section tripod and section plane are displayed. The tripod enables you to move the section plane.

The cross sectioning tools can create a Section Face, XY Section, YZ Section, and a XZ Section, each representing a plane defined by two of the three tripod axes.

Design Review, AutoCAD, and Inventor do not share a common WCS (World Coordinate System). In Design Review, Y is up. In AutoCAD and Inventor, Z is up.

TIP Keep the tripod slightly oblique to the screen to facilitate moving or rotating the selection.


To cross section a 3D model on a face

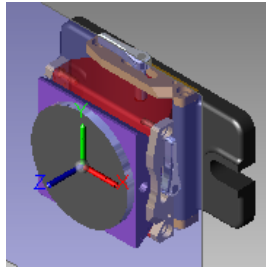
- 1 Click Tools tab ► 3D Tools panel ► Section Face.



The mouse pointer changes to the Section Face tool.







- 2 Click the desired model surface to create the cross section.
The section plane is applied where you click the model. The mouse pointer changes to the Modify Cross Section tool. 



- 3 Optional: Drag the tripod to position the section plane as needed.
The resulting section is added to the Cross Sections palette. The first section you create is listed under My Cross Sections as Cross Section 1.

To cross section a 3D model on a plane

- 1 Click Tools tab ➤ 3D Tools panel.
- 2 Select the desired cross section plane type: XY Section , XZ Section , YZ Section. 
The section plane cuts the model in half to reflect the section plane type and the mouse pointer changes to the Modify Cross Section tool. 
- 3 Drag the tripod to position the section plane as needed.
The resulting cross section is added to the Cross Sections palette. The first section you create is listed under My Cross Sections as Cross Section 1.

You can create numerous cross sections on a model, which are numbered sequentially, such as Cross Section 2, Cross Section 3, and so on. When creating multiple cross sections, only the currently selected section plane is visible. The other section planes are not visible, but the effects of them (the cross sections) remain visible.

See also:

- [Move and Rotate 3D Objects](#) on page 103
- [Cross Sections Palette](#) on page 34

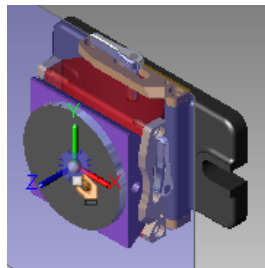
Move and Rotate Section Planes

You can change the cross section revealed, or move or rotate a section plane. To move or rotate the section plane, position the mouse pointer over the tripod, or between the axes. Hot spots appear, each allowing you to move the section plane in a different way.

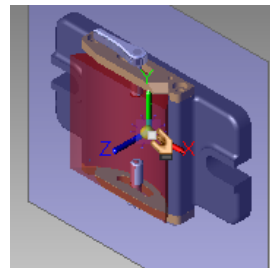
To move a section plane

- 1 In the Cross Sections palette, select the cross section you want to move. The section plane and tripod are shown.
- 2 On the tripod, click the origin.
- 3 Drag the origin in any direction.

TIP You can also use the arrow keys to move the section plane left, right, up, or down.



Begin move



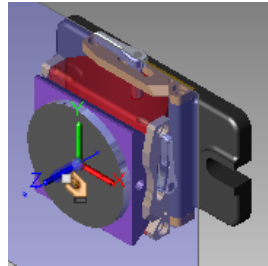
End move

To move a section plane along an axis

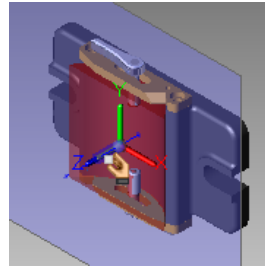
- 1 In the Cross Sections palette, select the cross section you want to move. The section plane and tripod are shown.

- 2 On the tripod, click the desired axis near the origin.
- 3 Drag the axis in either direction along the axis.

TIP You can also use the arrow keys to move the section plane left, right, up, or down.



Begin move

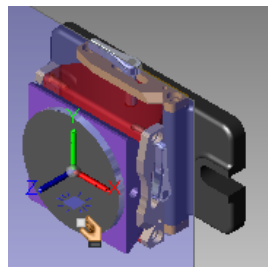


End move

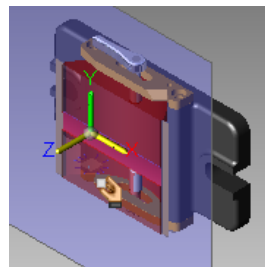
To move a section plane within a plane

- 1 In the Cross Sections palette, select the cross section you want to modify. The section plane and tripod are shown.
- 2 Rollover a plane defined by two axes until an indication of a plane with arrows is shown, and click.
- 3 Drag the section plane in any direction.

TIP You can also use the arrow keys to move the plane left, right, up, or down.



Begin move

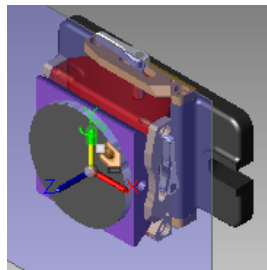


End move

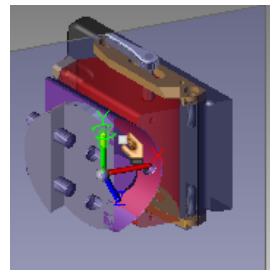
To rotate a section plane

- 1 In the Cross Sections palette, select the cross section you want to modify. The section plane and tripod are shown.
- 2 On the axis around which you want to rotate the plane, click near the end of the axis.
- 3 Drag to rotate the section plane around the selected axis.

TIP You can also use the arrow key to rotate the section plane.



Begin rotation



End rotation

RELATED If you press and hold Shift while using the arrow keys to rotate, the section plane rotates in 45° increments.

See also:

- [Use the Arrow Keys to Move and Rotate](#) on page 290

Flip Cross Sections

To flip a cross section

- In the Cross Sections palette, right-click the desired cross section and select Flip. The section plane flips.

Hide or Show a Section Plane

By default, a section plane (the plane that cuts the object) and its tripod are shown.

To hide a section plane

- In the Cross Sections palette, right-click the desired cross section and select Hide.
The section plane and the tripod are hidden, leaving the cross section visible.

TIP To hide all cross sections, on the ViewCube click the Home button.


To show a section plane

- In the Cross Sections palette, right-click the hidden cross section and select Hide again.
The section plane and the tripod are shown.


Control Cross Section Display

In addition to hiding and showing a section plane for a cross section, you can hide both the section plane and the cross section from view at the same time.

To hide a cross section and its section plane

- In the Cross Sections palette, next to the cross section to be hidden, click the light bulb icon. 
The section plane and the tripod are hidden.

To show a cross section and its section plane

- In the Cross Sections palette, next to the cross section you want to show, click the light bulb icon. 
The section plane and the tripod are shown.

By default, all cross sections are shown as they are made.

To hide all cross sections

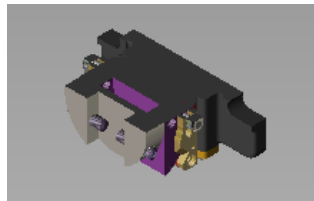
- In the Cross Sections palette, right-click My Cross Sections and select Active.
All cross sections are hidden.

To show all cross sections

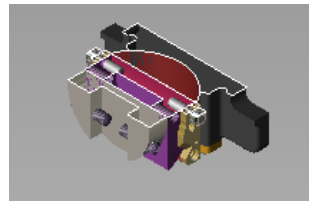
- In the Cross Sections palette, right-click My Cross Sections and select Active.
All cross sections are shown.

Control Caps Display

A cross section slices through objects showing a flat surface, or cap, across all objects. The sectioning tools cap all cross sections by default. Uncapping cross sections shows objects as if they were hollow.



Capped cross section



Uncapped cross section

To uncap cross sections

- In the Cross Sections palette, right-click My Cross Sections and select Cap.
The cross sections are uncapped and hollow spaces are visible.
Repeat this step to cap the cross sections.

View a Cross Section Parallel to the Screen

To view a cross section parallel to the screen

- In the Cross Sections palette, right-click the desired cross section and select Viewpoint.

The object on the canvas is panned and zoomed so that section plane is parallel to the screen.

Rename a Cross Section

Each cross section you create is added to the Cross Sections palette under My Cross Sections. By default they are named Cross Section 1, Cross Section 2, and so on.

To rename a cross section

- 1 In the Cross Sections palette, right-click the desired cross section and select Rename.
The Rename Cross-Section dialog box opens.
- 2 Enter a new name for the cross section and click OK.
The new cross section name is displayed under My Cross Sections.

Reset a Section Plane

When you manipulate a section plane, after creating it, you can quickly reset it to its original position.

To reset a section plane

- In the Cross Sections palette, right-click the desired cross section and select Reset.
The section plane appears as it was originally placed.

To reset all section planes

- In the Cross Sections palette, right-click My Cross Sections and select Reset.

Delete Cross Sections

To delete a cross section

- In the Cross Sections palette, right-click the desired cross section and select Delete.
The selected cross section is deleted.

To delete all cross sections on the model

- In the Cross Sections palette, right-click My Cross Sections and select Delete All.
All cross sections are deleted.

TIP If you delete a cross section by mistake, you can retrieve it by clicking Undo on the Quick Access toolbar.

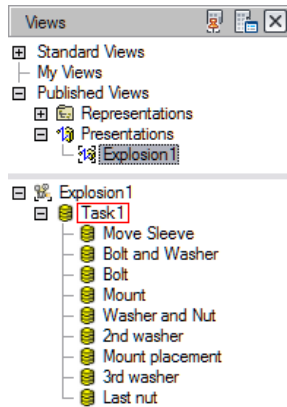
View Animations in 3D DWF Files

11

About Animations in DWF Files

Design Review allows you to view animations and assembly instructions, if published, created by Autodesk Inventor. Animations allow downstream reviewers to observe the details of assembly and/or component objects more closely and see how and in what order they fit together. To view assembly instructions, display the Text Data palette.

Animations are listed in the Views palette under Published Views ► Presentations. When you click an animation title, Explosion 1 in the example below, the Views palette is extended to display the animation chapters and sequences; and the animation begins playing. The labels for each view, chapter, and sequence are defined by the DWF publisher and cannot be changed.



The Views palette, extended after selecting an animation

To expand an item in the tree list

- Next to an item in the tree list, click the plus button (+). The tree item is expanded and its children are shown in the tree list.

To collapse an item in the tree list

- Next to an item in the tree list, click the minus button (-). The tree item is collapsed and its children are no longer visible in the tree list.

See also:

- [View Tabular Data](#) on page 133
- [Use Palettes](#) on page 20











About Animation Tools



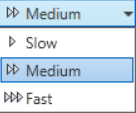

When a sheet (3D model) that is selected in the Thumbnails or List View palette contains an animation, the conditional Animation tab is displayed in the Design Review ribbon. Animations can be published to play automatically, active mode, or manually, inactive mode.

If a sheet contains an active animation, the animation begins automatically and the animation tools are active. If the sheet contains more than one animation, or inactive animations, select an animation in the Views palette

(Published Views > Presentations) or, from the Select Animation drop-down list on the Animation tab > Settings panel.

Use the Animation tab > Controls panel to control animation playback.

Tool	Description
	Play. Plays the animation forward.
	Pause. The animation must be running to use this button.
	Reverse. Plays the animation backward.
	Next Interval. Advances the animation one frame at a time.
	Next Sequence. Jumps to the beginning of the next sequence without playing.
	Play Sequence. Plays only the selected sequence and pauses at the beginning of the next sequence.
	Previous Interval. Reverses the animation one frame at a time.
	Previous Sequence. Jumps to the start of the previous sequence without playing animation.
	Play Sequence Reverse. Plays the selected sequence backward and pauses at the beginning.
	Loop. You can set the loop to play continuously or once only within the following play settings: <ul style="list-style-type: none">■ Play

Tool	Description
	<ul style="list-style-type: none"> ■ Play All Reverse ■ Play Sequence ■ Play Sequence Reverse ■ Next Interval ■ Previous Interval <p>You can also click the Loop toggle during animation playback to loop the current view or sequence. By default, looping is off.</p>
	<p>Camera. You can turn off/on all published camera changes in a DWF file animation. By default, camera changes are enabled.</p>
	<p>Animation Trails. You can show or hide published trails on page 303 during playback. If the publisher did not include trails, the button is unavailable. By default, trails are not displayed.</p>
	<p>Speed. You can set the playback speed of the animation. Select a speed:</p> <ul style="list-style-type: none"> ■ Slow ■ Medium (default setting) ■ Fast <p>See more about changing animation playback speed.</p>
	<p>Select Animation. If more than one animation is present in the current sheet, click the Select Animation arrow and select an animation to view.</p>

Start an Animation

Unless the first sheet in the DWF file contains an animation, Design Review does not automatically display the animation tools. When you select a sheet in either the Thumbnails palette or the List View palette that contains an

animation, the Animation tab displays, the workspace automatically changes to Animation workspace and the first active animation (if more than one exists in the file) begins playing.

If the animation does not play automatically, the model is shown on the canvas in the first frame, or interval, of the animation.

To start an animation

- Click Animation tab ► Controls panel ► Play. 


See also:

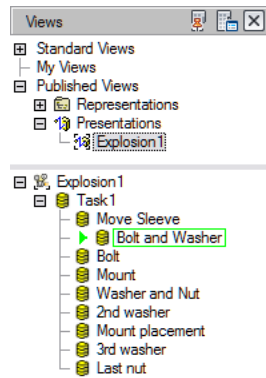
- [Use Workspaces](#) on page 38

View Animations

When a 3D sheet containing an active animation is opened, the animation begins playing by default. However, you can stage the entire animation, a chapter, or a sequence, by clicking the animation, chapter, or sequence name when the extended Views palette is displayed.

To view an animation from the beginning

- 1 If necessary, display the Views palette.
- 2 In the tree list, from Published Views ► Presentations, select an animation.
- 3 If necessary, click Animation tab ► Controls panel ► Play. 
The animation begins playing on the canvas.



When an animation is running, the sequence being viewed is highlighted within the extended Views palette.

To view part of a larger animation

- 1 In the extended Views palette, click the plus button (+) next to the name of an item in the tree list.

The tree item is expanded to display a hierarchical list of chapters and sequences that combine to create the parent animation. Further expand the chapter tree items as needed.

- 2 Select the chapter or sequence from which you would like to begin viewing the animation.

- 3 Click Animation tab ► Controls panel ► Play. 

The animation begins playing on the canvas from the chapter or sequence you selected.

To view a single sequence only

- 1 Select the sequence to view.


- 2 Click Animation tab ► Controls panel ► Play Sequence. 

The selected sequence begins playing on the canvas.

TIP You can also play a single sequence by double-clicking the sequence name in the extended Views palette.

To view an entire animation backward

- 1 In the extended Views palette, select the last sequence, at the bottom of the Animation tree list.

- 2 Click Animation tab ► Controls panel ► Reverse. 
The animation begins playing in reverse.



IMPORTANT During animation playback, some Design Review features are disabled. The ribbon buttons that enable these features are unavailable.


For a complete list of animation control buttons and a description of each, see [About Animation Tools](#).

Markup Animations

Adding markup to an animation is like adding markup to other 3D DWF files except that the animation cannot be running.

To markup an animated 3D DWF

- 1 Click Animation tab ► Controls panel ► Pause. 
- 2 Click Markup and Measure ► Callouts panel ► Rectangle Callout. 
The mouse pointer changes to a crosshair.
- 3 Place the mouse pointer over the model where you want to begin the leader line.
- 4 Click and drag the label to the desired location and click again to set the label position.
- 5 Type the comment text in the label. The label expands to accommodate the text.

- 6 Click outside the label to complete the callout on the canvas and to display the label text under the sheet name in the Markups palette.
- 7 Click Animation tab ► Controls panel ► Play  to continue animation playback.




IMPORTANT When you continue animation playback after adding markup, your markups will no longer be displayed. Access markup applied to animations in the Markups palette.

See also:

- [Markup 3D DWF Files](#) on page 197
- [Markups Palette](#) on page 30
- [Markup Basics](#) on page 161

Take a Snapshot of an Animation

To take a snapshot of an animation

- 1 Click Animation tab ► Controls panel ► Pause. 
- 2 Click Tools tab ► Create Sheet panel ► From Snapshot. 
- 3 Move and resize the snapshot capture window as necessary.
- 4 Click the Capture button  to finish the snapshot.
A 2D Snapshot sheet is added to the Thumbnails and List View palettes. This sheet is also displayed on the canvas so you can add markup.
You can rename your snapshot.

See also:

- [Create a New 2D Sheet by Taking a Snapshot](#) on page 155

- [Rename a Sheet](#) on page 156

- [Save a View](#) on page 33

Change How an Animation Is Displayed

You can use various tools of Design Review to change the view while an animation is running.

Once you have made an animation sequence active in the Views palette, you can use the Pan, Zoom, Zoom Rectangle, Orbit, Turntable, or Cross Section tools to interact with the animation.

Changes you make using these tools remain in effect until the animation calls for an object movement or camera change.

- If you move an object while the animation is paused, or before playing the animation, the object reappears in its original position when the sequence that includes that object begins.
- If you change your view of the animation, during playback or while paused, your view is lost when the animation advances to the next chapter or sequence. To maintain your view changes, [disable camera changes](#).

Use the Settings panel on the Animation tab to enhance your viewing experience.

Change the Animation Speed

You can change the speed at which an animation runs. The default speed for animation playback is Medium. Slow plays the animation at 1/3 the default speed. Fast plays the animation at three times the default speed.


To change the animation speed

- 1 Click Animation tab ► Controls panel ► Speed drop-down list.
- 2 Select Slow, Medium, or Fast.

Enable or Disable Looping

Set Design Review to automatically replay the animation. By default, looping is disabled.


To enable or disable animation looping

- Click Animation tab ► Controls panel ► Loop  to enable automatic replay of the animation.
- Click Loop again to disable automatic replay.

Disable or Enable Camera Changes

Occasionally, you may want to disable the automatic camera changes called for in an animation. By default, camera changes are enabled.


To disable or enable animation camera changes

- Click Animation tab ► Controls panel ► Camera  to disable animation camera changes.
- Click Camera again to enable the published camera changes.

Show or Hide Trails

You may find it helpful to see the movement [trails](#) on page 303 of objects while viewing an animation. By default, trails are not displayed.

To enable or disable object trails in animations

- Click Animation tab ► Controls panel ► Animation Trails  to enable trails in the animation.
- Click Animation Trails again to disable trails in the animation.

Although you can change the look and orientation of an object while using the animation viewer, Design Review cannot save changes to animations. When you close the program, the changes you made are lost.

See also:

- [Save a View](#) on page 33

About Viewing Assembly Instructions

Assembly instructions are attached to individual sequences in an animation by the DWF publisher. They explain, step by step as the animation advances, how to create the currently loaded assembly. They can include text instructions and parts lists and are meant for use in a manufacturing setting to provide clear and concise instructions in conjunction with Design Review's [View Animations](#) feature. If the publisher does not include assembly instructions, you cannot create them in Design Review.

When an animated DWF file with assembly instructions is opened in Design Review, the instructions are displayed for the current task or sequence in the Text Data palette.

IMPORTANT Although loading a DWF file may populate the Text Data or Grid Data palettes, these palettes may not be displayed automatically. Display palettes manually by clicking Home tab ► Workspace panel ► Show/Hide Palettes drop-down list.

In Design Review, you can set whether palettes display automatically on the Options dialog box ► General tab in the Automatically Palette Launching group.

Depending on the current workspace layout, the text and grid data palettes may be displayed unpinned at the edge of the canvas. If necessary, place the mouse pointer over the Text Data or Grid Data tab to display the palette, and click the lock button to keep the palette displayed.

The Text Data palette displays text such as step-by-step instructions for assembly.

The Grid Data palette displays data in list or table formats such as a parts list or a Bill of Materials.

NOTE In the Grid Data palette, the appearance and behavior of a BOM that accompanies an animation differs from a stand-alone BOM table. With an animation, only the parts that move during a task, or sequence, are displayed.

Selecting an animation chapter or sequence displays the published assembly instruction for that part of the animation in the Text Data palette and stages that part of the animation on the canvas. Parts corresponding to that instruction are shown in the Grid Data palette.

See also:

- [General Tab \(Options Dialog Box\)](#) on page 267
- [Manipulate Palettes](#) on page 20
- [View Tabular Data](#) on page 133

View Tabular Data

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About Tabular Data

Design Review can display a table of information about the parts within an assembly that may include quantities, names, costs, vendors, and other details someone building the assembly might need. This data may be a Bill of Materials (BOM) or a more generic parts list. This type of tabular data is typically used by design, purchasing, and manufacturing personnel to control production and track changes.

In Design Review, you can view a 2D drawing or 3D model while simultaneously viewing tabular data. Suppliers, contractors, fabricators, and manufacturers can print tables or, using Design Review, mark them up using the From Grid and markup tools.

About Tables

When a DWF file is published with tabular data, the table is formatted according to the complexity of the designed object. Published tabular data may be one of two types:

- **H Grid Table.** A hierarchical table displays expandable parent/container items that may contain still more expandable items. You can move items which are at the same level, within the same parent, but you cannot change the level (promote or demote) of an object. This type of table is commonly used for BOM information.

- **Grid (Flat) Table.** A table in which all items are at the same level (non-hierarchical). You can move items within a flat table by dragging and dropping. Flat tables are more commonly used for parts lists.

When you select an item in a table, whether a single part or an assembly, that item is also selected in the Model palette and on the canvas. Additionally, when an object is selected on the canvas or in the Model palette, the part is scrolled to (in larger tables) and highlighted in the table.

NOTE If the selected part is small or an interior component, it may not be apparent that it is also selected on the canvas. In the Model palette, right-click the part and select Hide Others to display only the selected part on the canvas.

See also:

- [Change the Visibility of Objects and Subobjects](#) on page 97

View Tabular Data

If the Grid Data palette is not already displayed, set up the Design Review workspace to view tabular data.

To view tabular data

- In the Thumbnails or List View palette, click a table or a named Bill of Materials.
The Grid Data palette opens below the canvas and displays the table. The canvas is resized, but continues to display the current sheet or model.

NOTE You may need to resize the Grid Data palette.

To hide or show the Grid Data palette

- 1 Click Home tab ► Workspace panel ► Show/Hide Palettes.
- 2 Select Grid Data.
The Grid Data palette opens.

To expand an item in a tree list

- In a tree list, to the left of a tree item, click the plus sign (+).

The tree item is expanded and its children items are shown in the tree list.

When you select an item in the table, either an individual component or an entire subassembly, it is also selected on the canvas and in the Model palette. If the table you are viewing is linked to a 2D sheet, clicking an item in the table automatically pans and zooms the sheet to display that part on the canvas.

To collapse an item in a tree list

- In a tree list, to the left of a tree item, click the minus sign (-).
The tree item is collapsed and its children items are hidden in the tree list.

You can rearrange rows in the table, but you cannot change the level of an item. For example, you cannot promote a child part to the level of a parent assembly or demote a parent to the level of a child; child parts cannot be moved into another parent assembly.

To move table rows

- Drag and drop rows up or down.


To move table columns

- Drag and drop column headers left or right.

To hide or show columns

- Right-click a column header and select columns to display in the table. A check mark indicates that a column is shown. Click a column title to clear the check mark and hide the column.

To resize a column

- 1 Place the mouse pointer over the line that separates column headers until the mouse pointer changes to a horizontal, double-headed arrow. 
- 2 Drag the mouse pointer left or right to resize the column.

RELATED To change column width to fit the content, double-click the separator bar to the right of the column heading.

To change the sort order of a column

- Click once on the header of the column you want to sort.

If you have modified the format of the Grid Data palette while viewing a table, such as changing the position, width, or visibility of columns, or the order in which the rows are displayed, the view settings for that table persist until you exit Design Review. Any other table in the same DWF file uses the default view settings.

Format changes to the Grid Data palette are not persistent across reviewing sessions, and are lost when you exit Design Review.

Hyperlinks in Tables

Publishers may include hyperlinks in table cells that either correspond to a published [iPart](#) or open a sheet or model from the Thumbnails palette.

Clicking on the hyperlink performs the associated action.

See also:

- [Manipulate Palettes](#) on page 20
- [Search Autodesk Seek](#) on page 57
- [Use Published Hyperlinks](#) on page 58

Markup Tabular Data

Design Review enables you to capture tabular data to a new, separate sheet for markup purposes using the From Grid tool. Unlike the From Snapshot tool, the From Grid tool captures a picture only of the Grid Data palette, and does not require you to set the snapshot size. A table must be loaded in the Grid Data palette to enable the From Grid tool.

IMPORTANT Resize the Grid Data palette to display the information you want to capture before creating the snapshot.

To markup tabular data

- Click Tools tab ➤ Create Sheet panel ➤ From Grid.



The new snapshot DWF sheet is displayed on the canvas and is added as the last sheet in the Thumbnails and List View palettes.

See also:


- [Markup Basics](#) on page 161

Print Tabular Data

Design Review provides the option to print tabular data.

To print tabular data

- 1 In the Thumbnails or List View palette, select the table you want to print.

- 2 Click application button ► Print ► Print. 

TIP You can also right-click the table in either the Thumbnails or List View palette and select Print.

The Print dialog box opens and the selected table is shown in the Preview area.

- 3 Optional: Select the desired print options.

TIP If you have changed the view of the table, such as changing the sort order or the visibility or width of columns, under Print Range, from the View drop-down list, select Current View to print the table as it is displayed in Design Review. To print the table in its default state, from the View drop-down list, select Full Page.

- 4 Click OK.

When you first print a table, the print settings persist for the current session. When you exit Design Review, your preferred table print settings are discarded.

See also:

- [Print an Open File](#) on page 242
- [Alternative Methods for Performing Commands](#) on page 281

View Georeferenced Maps

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About Georeferenced Maps

A georeferenced map is a sheet within a DWF file published by Autodesk® Map 3D 2008 or later that contains a global coordinate system and defined latitude and longitude coordinates based on the WGS84 [datum](#) on page 300. In Design Review 2008 or later, sheets with a published coordinate system can interact with [GPS](#) on page 301 devices that use the [NMEA 0183](#) on page 301 protocol.

Not all DWF files contain map coordinate information. For a DWF sheet to have map coordinates, the publisher must ensure specific conditions.

- 1 The source DWG file must have a coordinate system assigned to it.
- 2 The coordinate system must be valid for the data of the map. For example, a coordinate system for Canada does not support converting X/Y values to latitude and longitude for a map of Thailand.
- 3 The Publish command must be used to create the DWF file. Plotting to DWF does not work. Only the content on the Model tab can be published with coordinates.

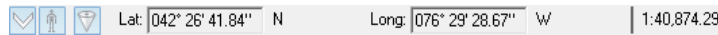
NOTE If you are experiencing difficulties with published georeferenced maps, verify that the DWF file contains a published coordinate system and defined latitude and longitude coordinates. Also verify that your GPS device is set for NMEA output and WGS84 coordinates. For more information, review the documentation that came with your GPS device.

See also:

- [GPS Tab \(Options Dialog Box\)](#) on page 271

About Map Tools



The Map toolbar can be used to invoke common map-related commands, to view current coordinates, or to enter specific coordinates.




Map toolbar

The Map toolbar is a conditional toolbar because it is only available when a georeferenced map is displayed on the canvas.

Map Toolbar

Tool	Description
	<p>Map Menu. Displays all available georeferenced map tools. Select a command:</p> <ul style="list-style-type: none">■ GPS Mode.■ Center to Coordinates.■ Copy Coordinates. Copies both the latitude/longitude or X/Y coordinates based on the mouse pointer's last position over the map.■ Paste Coordinates. In Entry Mode, you can paste both the copied latitude/longitude or X/Y coordinates.■ Units and Systems. A check mark indicates the coordinate system currently in use.<ul style="list-style-type: none">■ The published coordinate system.■ Lat/Long - Degrees, Minutes, Seconds.■ Lat/Long - Decimal Degrees.■ Enter Coordinates. Switches the Map toolbar between Display Mode and Entry Mode. Only in Entry Mode can you type or paste specific coordinates. Entry Mode only supports decimal format. So published coordinates and Lat/Long coordinates must be entered in decimal values.
	<p>GPS Mode. Starts GPS tracking and centers the map to the coordinates provided by GPS device. The My Coordinates icon indicates the position. Adding any markup to a georeferenced map disables GPS Mode.</p>

Tool	Description
	<p>Center to Coordinates. The map centers on the entered coordinates, and the Coordinate icon is shown over the entered coordinates. Center to Coordinates disables GPS Mode each time coordinates are entered and Center to Coordinates is clicked. The Coordinate icon is not saved or printed.</p>
	<p>Lat/Long or X/Y (Display Mode). Displays the current latitude (North/South), longitude (East/West), or X/Y position of the mouse pointer in the selected units and coordinate system. In Display Mode, coordinates can be copied from, but cannot be entered or pasted into, the Map toolbar.</p>
	<p>Lat/Long or X/Y (Entry Mode). Enables you to enter a specific latitude (North/South), longitude (East/West), or X/Y position in decimal degrees format into the Map toolbar. For the Lat/Long coordinate systems, the Select North or South and Select East or West drop-down lists enable you to select the quadrants for the entered coordinates.</p>
	<p>Zoom Ratio. Displays a ratio of one unit to display units. The Zoom Ratio changes when zooming the map.</p>

Use a Georeferenced Map

You can use a georeferenced map to view published map coordinates as you move the mouse pointer over the map or to identify your current location.

Use a Georeferenced Map without a GPS Device

To view published map coordinates, you must have Design Review 2008 or later installed. No GPS device is required.


To view published map coordinates

- 1 Display the georeferenced map on the canvas.
- 2 Move the mouse pointer over the map.


The current coordinates of the mouse pointer are shown on the Map toolbar.



To center on coordinates

- 1 Display the georeferenced map on the canvas.
- 2 Move the mouse pointer over the map to the desired coordinates.
- 3 Right-click and select Copy Coordinates.
Both the latitude and longitude or X/Y positions are copied.

- 4 Click Map Menu  and select Enter Coordinates to change the Map toolbar from Display Mode to Entry Mode.

TIP To switch back and forth between Display Mode and Entry Mode, double-click the background of the Map toolbar.

- 5 In Entry Mode, click Map Menu  and select Paste Coordinates.
If the coordinates were copied from the canvas or the Map toolbar, the coordinates are pasted into both text boxes.
If the coordinates were copied from another program, Paste Coordinates is disabled. Paste the latitude and longitude separately.
- 6 Optional: If you must change the quadrants for the entered coordinates latitude and longitude, select the desired quadrants from the Select North or South and Select East or West drop-down lists.

- 7 On the Map toolbar, click Center to Coordinates. 
The map centers on the entered coordinates, and the Coordinate icon  is shown over the entered coordinates.

TIP Press Ctrl+Shift+J to quickly center the map to the coordinates below the mouse pointer.

- 8 Optional: To switch back to Entry Mode, click Map Menu  and select Enter Coordinates again.

Once in Entry Mode, individual coordinates can also be typed or pasted into the Map toolbar. The coordinates must be in decimal degrees format and must be entered separately in the appropriate text boxes. If a coordinate is invalid, the Center to Coordinates command does not work.

Right-clicking in either the Lat/Long or X/Y text boxes enables you to perform common editing commands such as Undo, Cut, Copy, Paste, Delete, and Select All. Some of these commands are disabled when the Map toolbar is in Display Mode.

Use a Georeferenced Map with a GPS Device

To identify your current location, in addition to having Design Review 2010 installed, you must also have a supported GPS device configured and connected, so that it can interact with Design Review.

To configure and connect to a GPS device

- 1 If necessary, open a DWF file containing a georeferenced map and display the map on the canvas.
- 2 Click the application button ► Options.
The Options dialog box opens.
- 3 Select the GPS tab.
- 4 Select the connection.
 - Select Automatically Scan All Ports for My GPS Device to have the computer locate the first GPS device and select the connection for you.
 - Select Manually Specify Connection Port for My GPS Device to select a particular port. Then, from the Port drop-down list, select the port where the GPS device is installed.
- 5 From the Set GPS Refresh Interval drop-down list, select the frequency for the GPS device to refresh the current position on the georeferenced map.
- 6 Click Connect to start the GPS device.
The GPS Device Connection Status message box opens.
Reposition the message box or click OK to close it. The current status is always displayed on the GPS tab in the Options dialog box.

NOTE If you are having difficulty connecting to a GPS device, verify that it is a [supported device](#) on page 295 and that it is properly installed.

- 7 Optional: By default the Use This Connection at Startup option is checked, so the GPS device will be connected and ready the next time you start Design Review. To disable the GPS device until you connect it in the Options dialog box, uncheck the Use This Connection at Startup check box.

After you have configured the installed GPS device and established a connection, in GPS Mode, you can use a georeferenced map to identify your current location. In GPS Mode, as the GPS device moves, the georeferenced map moves based on the GPS refresh rate interval that you set during configuration.


The My Coordinates icon is always centered on the canvas. If the coordinates of your current location are not on the first sheet, Design Review automatically attempts to load the correct georeferenced map, if it is available. When GPS Mode is disabled, the My Coordinates icon is no longer displayed on the georeferenced map.


NOTE If a GPS device is connected but not detected, the GPS device must be configured. If no signal is detected, the My Coordinates icon displays a question mark.

Any markup can be added to a georeferenced map, but doing so turns off GPS Mode. You can use 2D measure tools for most georeferenced maps. However, if a map does not contain a published coordinate system and the units are latitude and longitude, the measure-related tools are disabled.

To identify your current location on a georeferenced map

- 1 Display the georeferenced map on the canvas.
- 2 If necessary, configure and connect to the GPS device.

- 3 On the Map toolbar, click GPS Mode. 

The My Coordinates icon  indicates your current location on the georeferenced map.

Going Beyond Georeferenced Map Boundaries

When viewing areas near the edges of the georeferenced map, either in GPS Mode or using Center to Coordinates, white space is displayed for areas that exceed the published map coordinates. If an action, such as GPS Mode or entered coordinates, attempts to go beyond the current map coordinates, Design Review looks for the coordinates on other maps in the open DWF file.

- **Coordinates found in only one map.** If the coordinates are found only on one map in the open DWF file, the found coordinates are displayed on the matching map.
- **Coordinates found in more than one map.** If the coordinates are found on several maps in the open DWF file, a dialog box opens and you are prompted to select the desired map and click OK. The selected map displays the coordinates. If in GPS Mode, clicking OK leaves GPS Mode enabled. Clicking Cancel to close the dialog box disables GPS Mode.
- **Coordinates not found in the open DWF file.** If the coordinates are not found on any map in the open DWF file, a message box indicates that coordinates could not be found. If in GPS Mode, clicking OK to close the message box disables GPS Mode.

See also:

- [Alternative Methods for Performing Commands: Georeferenced Maps](#) on page 289

About Publishing Non-DWF Files

Creating a DWF file from another file format is referred to as publishing, because the original file contents are published into a single, new DWF file. Many Autodesk and non-Autodesk products have built-in DWF publishing capabilities. To learn to use a program to publish a DWF file, see the program's help file.

About DWF Writer

If a program does not have built-in DWF publishing capabilities, use the free Autodesk® DWF™ Writer program. With DWF Writer installed, you can publish 2D and 3D DWF files from nearly any program.

DWF Writer enables you to standardize on one file format, so you can exchange project information with extended teams. DWF also enables you to take advantage of DWF integration in other Autodesk design, collaboration, and data management solutions.

For the best DWF publishing results, use a program's built-in publishing capabilities instead of DWF Writer.

See also:

- [Open Files](#) on page 45
- [Compose DWF Files](#) on page 151
- [Learning Resources: DWF Writer](#) on page ?

Publish a New DWF File from Windows Explorer

You can publish a new DWF or DWFX file from a non-DWF file directly from Windows Explorer or from the desktop. Some supported, non-DWF file formats include: text files, PDF files, Word documents, Excel workbooks, and PowerPoint presentations.

To publish DWF files from non-DWF files, the program that originally created the file must be installed and it must have built-in DWF and DWFX publishing capabilities.

If that program does not have built-in publishing capabilities, the computer attempts to use Autodesk DWF Writer if it is installed. (Autodesk DWF Writer 2008 does not publish DWFX files; the latest version of DWF Writer is required.) If DWF Writer is not installed, you are notified where to download it.

WARNING If Autodesk Inventor 11 or earlier is installed, right-clicking Inventor files does not display either the Publish DWF or Publish DWFX command. This feature may not be compatible with 64-bit operating systems.

To publish a new DWF file from Windows Explorer or the desktop

- 1 Display the folder that contains the non-DWF file to be published.
Only one non-DWF file can be published at a time.
- 2 Specify the format you want to publish.
 - Right-click the non-DWF file and select Publish DWF to publish a DWF file.
 - Right-click the non-DWF file and select Publish DWFX to publish a DWFX file.

The non-DWF file opens in its original program and the Save DWF File As dialog box opens.
- 3 Optional: Select a location to store the DWF file.
- 4 Optional: In the File Name text box, type a name for the DWF file.
- 5 Click Save.

The original program closes, and the published DWF file opens in the default DWF viewing program.

See also:

- [About DWF Writer](#) on page 147
- [Publish and Email a New DWF File from Windows Explorer](#) on page 256

Get Design Review Plug-ins


Plug-ins are small programs that provide Design Review with additional features. Currently, three plug-ins are available:

- DGN Import Plug-in: Enables Design Review to access DGN files.
- JT Import Plug-in: Enables Design Review to access JT files.
- Autodesk® Freewheel® plug-in: Enables you to share DWF files to on the Autodesk Project Freewheel website.

To find Design Review plug-ins

- Click Home tab ► Assistance panel ► Help drop-down ► Get Plug-ins.

NOTE If the Autodesk Freewheel plug-in is not yet installed, click the application

button ► Save As ► Save to Freewheel  to go to the download location.

Each plug-in must be downloaded and installed after Design Review. Once a plug-in has been installed, restart Design Review to enable the new functionality.

See also:

- [About Embedding DWF Files](#) on page 263
- [Design Review Support](#) on page ?
- [Save a DWF File to Freewheel](#) on page 230

Compose DWF Files

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About Composing DWF Files

Composing a DWF file in Design Review refers to either creating a DWF file by combining content from existing DWF files, or modifying an existing DWF file by adding, reordering, or deleting sheets. The resulting DWF file is referred to as a composite DWF file. If content being combined includes tabular data, animations, or measure- or print-disabled sheets, the composite DWF file inherits this information.

You can use either the Thumbnails or List View palette when composing DWF files. The Thumbnails palette is convenient when combining DWF files and deleting sheets, while the List View palette is convenient when reordering and renaming sheets.

See also:

- [About Disabled DWF Files](#) on page 45
- [Publish DWF Files](#) on page 147
- [Save DWF Files](#) on page 227

Combine DWF Files

You can combine existing DWF content several ways.

- Add entire DWF files to an open DWF file
- Merge two or more DWF files into a new DWF file


- Drag sheets between open DWF files

When combining DWF content with DWFX content, certain conditions apply.

- Combining DWFX content with an open DWF file, converts the DWFX content to DWF
- Combining DWFX content with disablements with an open DWF file result in an error
- Combining DWF content with an open DWFX file, converts the DWF content to DWFX
- Combining files in a new DWF file converts the combined content to the default DWF Format as defined in the Options dialog box
- In Windows Explorer or on the desktop, you cannot use the Merge right-click menu command to combine DWF files with DWFX files

When you first start Design Review, you can begin combining DWF files immediately.

To create a DWF file

- Click the application button ► New.  If an open DWF file was changed, you are prompted to save it.

NOTE New is not available when viewing an embedded DWF file.

A new empty file is shown on the canvas. The new file type is based on the default DWF Format setting on the General tab of the Options dialog box. The new file cannot be saved until sheets are added.

To add entire DWF files to an open DWF file

- 1 In Design Review, create a DWF file or open an existing one to receive the other DWF files.
- 2 From Windows Explorer or the desktop, select one or more DWF files.
- 3 Drag the selection over the Thumbnails or List View palette of the receiving DWF file.

- 4 In the Thumbnails or List View palette of the receiving DWF file, drop the selection. (Any password-protected DWF file requires the password before it can be added.)

Copies of all sheets from the selection are added to the receiving DWF file. The original DWF files remain unchanged.

In Windows Explorer or on the desktop, the Merge right-click menu command is only available when Design Review is installed and the selected file types can be merged. You can merge DWF files with DWF files and DWFX files with DWFX files. However, you cannot use the Merge right-click menu command to merge: DWF files with DWFX files, password-protected DWF files, defective DWF files, or DWF files created before 1998.

To merge two or more DWF files into a new DWF file

WARNING This feature may not be compatible with 64-bit operating systems.

- 1 In Windows Explorer or on the desktop, open the folder that contains the DWF file or files to be merged.
- 2 Select two or more DWF files.

TIP To merge DWF files from multiple locations, use the Search Companion in Windows Explorer to find the desired DWF files.

- 3 In the selection, right-click the DWF file you want to be listed first in the new DWF file and select Merge.
The Save Merged File dialog box opens.
- 4 Optional: Select a location to save the merged DWF file.
- 5 Optional: In the File Name text box, type a name for the new DWF file.
- 6 Click Save.
A message box opens notifying you that the merge was successful.
- 7 Click OK.

To drag sheets between open DWF files

- 1 In Design Review, create a DWF file or open an existing one to receive the sheet or sheets to be copied.
- 2 Start a second instance of Design Review.

- 3 In the second Design Review window, open the DWF file that contains the sheet or sheets to be copied.
- 4 From the Thumbnails or List View palette of the second window, select the sheet or sheets to be copied.
- 5 Drag the selection from the second window over the Thumbnails or List View palette of the receiving DWF file in the first window.

WARNING Do not drop the selected sheet or sheets on to the canvas of the receiving DWF file. Doing so causes Design Review to create a DWF file.

- 6 In the Thumbnails or List View palette of the receiving DWF file in the second window, drop the selection. (Any password-protected DWF file requires the password before it can be added.)
Copies of the selected sheets are added to the receiving DWF file. The original DWF file remains unchanged.

See also:

- [Reorder Sheets within a DWF File](#) on page 154
- [Select Items](#) on page 17
- [Limitations of Embedded DWF Files](#) on page 263

Reorder Sheets within a DWF File

Once you have combined DWF files, you can arrange the sheets in a different order.

To reorder sheets within a DWF file

- 1 In the Thumbnails or List View palette, select the sheet or sheets to be reordered.
- 2 Drag the selection in the palette.
As you drag the selection, use the guide line that appears in the palette to help position the selection in the desired location. The palette scrolls automatically as needed.
- 3 Drop the selection in the new location.

TIP If you move a sheet by mistake, on the Quick Access toolbar, click Undo.

See also:

- [Select Items](#) on page 17

Create a New 2D Sheet by Taking a Snapshot

You can take a screen capture, or snapshot, of anything on your screen, inside or outside of the Design Review window. Create a 2D sheet using the From Snapshot tool. You can take a snapshot of a 2D sheet or a 3D model. You can also create a DWF file that includes snapshots which you can use to make a custom symbol catalog.

NOTE To maintain high quality when taking a snapshot, zoom in on the item you want to capture first, rather than taking a snapshot and then enlarging the snapshot.

To create a 2D sheet by taking a snapshot


- 1 In Design Review, create a file or open an existing DWF file to contain the snapshot.
- 2 Prepare the subject of your snapshot.
 - If the subject of your snapshot is within the open DWF file, show the sheet on the canvas that contains the content you want to capture.
 - If the subject of your snapshot is in another file, open the file and show the sheet on the canvas that contains the content you want to capture.



- 3 Click Tools tab ► Create Sheet panel ► From Snapshot.
The capture window opens.
- 4 Optional: If the Design Review window obscures the subject of your snapshot, position the subject on the screen so that it is visible and can be captured. The capture window remains on top.
- 5 Optional: Move the capture window by clicking anywhere on the gray bar and dragging it to the desired location.

- 6 Optional: Resize the capture window by typing the desired number of pixels in the Width and Height text boxes. You can also place the mouse pointer over one of the edges or corners of the capture window until the mouse pointer changes to a double-headed arrow. Then click and drag the edge or corner to the desired size.


TIP As you drag the capture window, press and hold Ctrl to make the capture window square or Shift to maintain the capture window proportions.

- 7 On the gray bar of the capture window, click the Capture button. 
The new snapshot DWF sheet is shown on the canvas and is added as the last sheet in the Thumbnails and List View palettes.

A default paper size is applied to the new sheet according to the best fit of the snapshot onto the standard size set on the computer (Imperial or metric). The scale is set to 1:1.

The next time the From Snapshot tool is used, it will open in the location and at the size in which you last used it.

To cancel a snapshot

- On the gray bar of the capture window, click the Exit button  or press Esc.

See also:

- [Markup 2D DWF Files](#) on page 179
- [Markup Tabular Data](#) on page 136

Rename a Sheet

Once you have combined DWF files, or created a snapshot, you can rename a sheet.

To rename a sheet

- 1 In the Thumbnails or List View palette, right-click the sheet to be renamed and select Rename.

TIP You can also double-click the sheet to be renamed.

- 2 Type the new sheet name.
- 3 Press Enter or click away from the sheet.

Hyperlinks and bookmarks are also updated, so that the sheet can be found under the new name.

Delete Sheets from a DWF File

Once you have combined DWF files, you can delete one or more sheets.

To delete sheets from a DWF file

- 1 In the Thumbnails or List View palette, select the sheet or sheets to be deleted.
- 2 Right-click the selection and select Delete.
A warning dialog box opens.
- 3 To continue deleting the selection, click OK.

TIP If you delete a sheet by mistake, on the Quick Access toolbar, click Undo.

See also:

- [Select Items](#) on page 17

Markup DWF Files

Markup Basics

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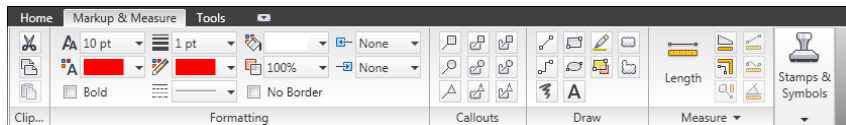
About Markup

Markup generically refers to all objects you add to a DWF file during the review process. Markups share some common traits when reviewing, commenting, or redlining DWF files during the feedback process.

There are several types of markup.

- Callouts
- Shapes
- Text boxes
- Highlighters
- Measurements
- Stamps
- Custom symbols

Markups can be added to sheets displayed on the canvas using the Markup & Measure ribbon tab. The markup tools available vary depending upon the type of content being displayed. For instance, some markup tools are used specifically for 2D content.



The Markup & Measure tab

The Markup & Measure tab is divided into panels. Each panel contains tools grouped by task.

- Clipboard
- Formatting
- Callouts
- Draw
- Measure
- Stamps & Symbols

The Markups palette lists all markups in the DWF file organized by sheet. Clicking a markup in the Markups palette displays the markup at the zoom level it was created on the canvas and in the Markup Properties palette.

See also:

- [Markup 2D DWF Files](#) on page 179
- [Markup 3D DWF Files](#) on page 197
- [Markup Settings](#) on page 267
- [Change Markup Properties](#) on page 176


About Markup-Disabled DWF Files

In addition to disabling measurement and printing, designers using Autodesk® Inventor® 2008 or later can disable markup options for some or all sheets or models in the published DWF file. If a sheet or model is markup-disabled, you cannot change disabled content. You may, however, be able to insert additional markup, depending upon the published markup settings.

Unlike measure- and print-disablements, markup-disabled content has two tiers.

- **Fully disabled.** Prevents any markups from being created, edited, or deleted. All markup-related tools are disabled. Existing markups are protected.
- **Partially disabled.** Prevents existing markups from being edited or deleted, but allows new markups to be added to the DWF file. If you select existing markups, the Cut and Delete commands are disabled. (Existing markups

can be copied.) Markup tools are enabled because new markup can be created, edited, and deleted until the reviewer closes the DWF file. Once the DWF file is saved and closed, the newly added markup becomes existing markup; the next time the DWF file is opened that markup cannot be edited or deleted.

NOTE If a file contains disablements, a lock icon  is shown on the Canvas toolbar and in the Restrictions column of the List View palette.

See also:

- [About Disabled DWF Files](#) on page 45
- [Secure Markups](#) on page 164

About Markup Properties

Each markup has a set of properties associated with it.

- **Label.** For the selected markup, type a new label to be shown in the Markups palette, without changing the selected markup on the canvas.
- **Status.** Identify the status of a markup. Choose from <None>, For Review, Question, and Done. The selected Status determines the color of the markup on the canvas.
- **Lock Markup.** Indicates the locking status of the selected markup or markups.
- **New Note.** Type comments, details, or remarks about the selected markup. The next time the file is opened, typed notes are displayed under History.
- **History.** Shows notes and status changes saved in the last markup session.
- **Markup Info.** Click the plus sign (+) next to Markup Info to display additional details about the markup, such as Created By (the name of the person who made the markup), On (the date and time the markup was created), Last Modified (the date of the last change), and Sheet (the name of the sheet that contains the markup).

Control Markup Display

You can hide all markups in a DWF file to see the underlying content. Hiding markup on the canvas does not hide it in the Markups palette.

By default, markups are shown.

To hide markups on the canvas

- Click Home tab ► View panel ► Show Markups.

To show all markups again, repeat this step or select a markup in the Markups palette.

See also:

- [Markup Settings](#) on page 267

Secure Markups

Design Review helps prevent accidental changes and deletions by enabling you to lock and unlock markups. Locking a markup prevents several actions:

- Cutting locked markups
- Deleting locked markups
- Moving locked markups
- Modifying locked markup text on the canvas
- Adding and deleting leaders from locked markups

Not all changes are disabled when a markup is locked. Locked markups do not prevent:

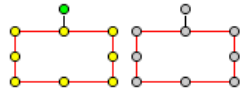
- Changing locked markup formatting
- Changing locked markup properties
- Copying locked markups (pasting a locked markup creates an unlocked copy)



After creating new markups, they remain unlocked. You can manually lock and unlock markups as needed. When a marked-up DWF file is opened, all existing markups are locked.

Determine Markup Locking Status




You can determine whether a markup is unlocked or locked several ways.

- On the canvas, the handles of a selected markup are either yellow, indicating unlocked (left), or gray, indicating locked (right).



- In the Markups palette, to the left of each markup, a lock icon indicates whether a markup is unlocked  or locked. 
- In the Markup Properties palette, for the selected markup the Locked Markup option is checked (locked) or unchecked (unlocked).

To lock or unlock a markup

- 1 On the Canvas toolbar, click Select. 
The Select tool is active.
- 2 On the canvas or in the Markups palette, select the desired markup object.
- 3 To lock the markup,
 - In the Markups palette to the left of the markup name, click the unlocked icon. 
 - In the Markup Properties palette, check Lock Markup.
 - Or, on the canvas, right-click the markup and select Lock.The selected markup is locked.
- 4 To unlock the markup,
 - In the Markups palette to the left of the markup name, click the locked icon. 

- In the Markup Properties palette, uncheck Lock Markup.
- Or, on the canvas, right-click the markup and select Lock.

TIP You can also double-click a locked markup on the canvas to unlock it.

The selected markup is unlocked.

Markup selection handles on the canvas and the lock icon in the Markup Properties palette change to reflect the new locking status.

TIP You can also lock or unlock multiple markups at the same time by selecting the markups, right-clicking, and choosing Lock or Unlock.


Manipulate Markup Objects

There are several types of markup objects that you can create on the canvas: Callouts, shapes, text boxes, highlighters, measurements, stamps, and custom symbols. Unless the DWF file has been markup-disabled or secured, markup objects can be manipulated using the similar methods; markups can be selected, moved, resized, rotated, reformatted, cut, copied, pasted, or deleted.

Select a Markup Object

Selecting individual markup objects enables you to manipulate the object.

To select a markup object

- 1 On the Canvas toolbar, click Select. 
The Select tool is active.
- 2 On the canvas or in the Markups palette, click the desired markup object.

To select multiple markup objects

- With the Select tool active, press and hold Ctrl and click each markup on the canvas or in the Markups palette to add it to the selection.

TIP To remove a markup from the selection, Ctrl-click the markup to be removed.

To select all markup objects on the canvas

- Right-click the canvas and click Select All Markups.
All markup objects on the current sheet are selected.

TIP In the Markups palette, click the sheet or model name to select all its markups.


To deselect a selected markup object

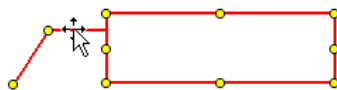
- Click an empty place on the canvas.

TIP You can also cancel a selection by pressing Esc.

Move a Markup Object

To move a markup object on the canvas


- 1 On the Canvas toolbar, click Select. 
The Select tool is active.
- 2 On the canvas or in the Markups palette, select the desired markup.
- 3 If the markup selection handles are gray, right-click the selected markup and uncheck Lock. Only unlocked markup objects can be moved.
Markup selection handles change from gray to yellow.
- 4 With the Select tool active, place the mouse pointer between the markup handles. (For a callout, place the mouse pointer over the leader line between the handles.)
The mouse pointer changes to a four-headed arrow.

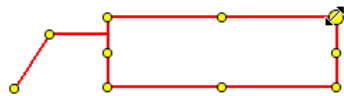


- 5 Click and drag the markup object to the desired location and drop it.

Resize a Markup Object

To resize a markup object

- 1 On the Canvas toolbar, click Select. 
The Select tool is active.
- 2 On the canvas or in the Markups palette, select the desired markup.
- 3 If the markup selection handles are gray, right-click the selected markup and uncheck Lock. Only unlocked markup objects can be resized. Markup selection handles change from gray to yellow.
- 4 Drag one of the selected markup handles.
Dragging a side handle changes markup width; dragging a top or bottom handle changes markup height; dragging a corner handle changes markup width and height. As you drag a handle, press and hold Shift to maintain original markup proportions.



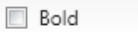
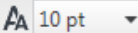





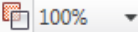
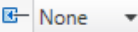
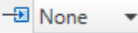
See also:

- [Markups Palette](#) on page 30
- [About Callouts for 2D Content](#) on page 180
- [About Callouts for 3D Content](#) on page 197

About Markup Formatting Tools

Markup appearance can be changed using tools on the Formatting panel on the Markup & Measure tab. Custom symbols are the only markup objects that cannot be formatted in Design Review.

NOTE Locked markups can still be formatted.

Markup Formatting Tools	
Tool	Description
 Bold  10 pt  [Red]	Text can be formatted using the Font Size, Text Color, and Bold tools.
 1 pt  [Red]  [Solid]	Lines can be formatted using the Line Weight, Line Color, and Line Style tools.
 [White]  100% <input data-bbox="488 1001 625 1033" type="checkbox"/> No Border	Fill can be formatted using the Fill Color and Fill Transparency tools. The No Border tool can also be used to turn a markup object border on or off.
 None  None	In addition to weight, color, and style, each line can also be formatted with a different Line Start Style and Line End Style.

Format Markups

Default markup settings, markup color, and markup line weight are the three formatting methods shared by both 2D and 3D markups.

You can set the default formatting for a markup tool, so each new markup, whether a measurement or a callout, will have the same default formatting. Design Review retains markup formatting. You can also change the formatting of existing markups.


To set the default formatting for a markup tool

- 1 Verify that no markup objects are selected.

- 2 From the Callouts, Draw, Measure, or Stamps & Symbols panels, click the markup object type for which you want to set new default formatting.
- 3 In the Formatting panel, click a format tool to specify the type of formatting to be changed.
- 4 Select a format option to set the new formatting.

All new markup of the selected markup type will have this new formatting by default.

To format existing markups

- 1 On the Canvas toolbar, click Select. 
The Select tool is active.
- 2 On the canvas or in the Markups palette, select the markup or markups to reformat.
- 3 Click a format tool.
- 4 Select a format option to apply to the selection.


The new formatting is applied to the selection.

NOTE Custom symbols cannot be formatted. They retain the formatting of the DWF file in which they were originally created.

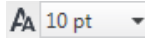
Change the Font Size

Design Review enables you to change the font size of a markup object from 1 pt to 72 pt. The default font size is 10 pt.

To change the font size

- 1 On the Canvas toolbar, click Select. 
The Select tool is active.
- 2 On the canvas or in the Markups palette, select the desired text markup or markups.

- 3 Click Markup & Measure tab ► Formatting panel ► Font Size

drop-down list. 

- 4 Select the desired font size.
The new font size is applied to the selection.





TIP You can also use different font sizes within the same text markup.

Set Color, Transparency, and Border Display

For all markup objects, you can control appropriate color settings:

- Text Color
- Line Color
- Fill Color


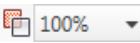
To set color

- 1 On the Canvas toolbar, click Select. 
The Select tool is active.
- 2 On the canvas or in the Markups palette, select the desired markup or markups.
- 3 Click Markup & Measure tab ► Formatting panel.
- 4 Depending on the type of markup selected, click the Text Color drop-down list , Line Color drop-down list , or Fill Color drop-down list. 
- 5 Select a pre-defined or custom color.
The new color is applied to the selection.

For callouts, closed shapes, and text boxes, you can also control fill color transparency.

NOTE Rectangle clouds and polyclouds, although closed shapes, do not have fill colors and must have borders.

To set transparency

- 1 On the Canvas toolbar, click Select. 
The Select tool is active.
- 2 On the canvas or in the Markups palette, select the desired callout, closed shapes, or text box markup or markups.
- 3 Click Markup & Measure tab ► Formatting panel ► Fill Transparency drop-down list. 
- 4 Select the desired transparency percentage.
The new transparency is applied to the selection.

For callouts, closed shapes, and text boxes, you can also control whether or not a border is shown.


To hide or show a markup border

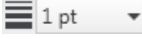
- 1 On the canvas or in the Markups palette, select the desired markup or markups.
- 2 Click Markup & Measure tab ► Formatting panel.
- 3 Select the desired border display setting.
 - To hide the markup border, check No Border.
 - To show the markup border, uncheck No Border.
The new border display setting is applied to the selection.

Change the Line Weight

You can change the line thickness, or weight, of drawn shapes and measurement markups. The line weight range is between 1/4 pt and 20 pt. The default line weight thickness is 1 pt.

To change the line weight of a markup

- 1 On the Canvas toolbar, click Select. 
The Select tool is active.

- 2 On the canvas or in the Markups palette, select the desired markup or markups.
- 3 On the ribbon, click the Markup & Measure tab ► Formatting panel ► Line Weight drop-down list. 
- 4 Select the desired line weight.
The new line weight is applied to the selection.


See also:

- [Change Default Color Options](#) on page 276
- [Change 2D Line Patterns](#) on page 188

Edit Text Markups

Using common editing methods—cut, copy, and paste—you can edit text in three types of text markup: callouts, text boxes, and stamps.

To edit text markups

- 1 On the Canvas toolbar, click Select. 
The Select tool is active.
- 2 On the canvas, double-click the desired text markup.
- 3 Place the insertion point in the text markup and edit the text as needed.
- 4 To finish editing, click outside the text markup.
The edited text markup is shown on the canvas and in the Markups palette.

TIP If you want a different label shown in the Markups palette than the one shown in the markup on the canvas, change the markup's Label property in the Markup Properties palette.

See also:

- [About Callouts for 2D Content](#) on page 180

- [About Callouts for 3D Content](#) on page 197
- [Stamp a 2D Sheet](#) on page 190
- [Change Markup Properties](#) on page 176
- [Secure Markups](#) on page 164

Cut, Copy, Paste, and Delete Markup on the Canvas



You can cut, copy, and paste markups within the same sheet, between sheets in the same DWF file, or between separate instances of Design Review. Cutting or deleting markups removes the markup from both the canvas and the Markups palette.

If no location is specified, pasting a copy of a markup (or a cut markup) without changing the canvas view, slightly offsets the pasted markup from the original. Specify a new location by clicking anywhere on a sheet.


Pasting markup can have some noteworthy and unexpected results.

- If the markup object you paste is a dimension, the markup text (the measurement) reflects the scale and units of measurement of the sheet to which the dimension is pasted.
- You cannot paste a markup copied from a 2D sheet on a 3D sheet, nor can you paste a markup copied from a 3D sheet on a 2D sheet.

To cut or copy and paste a markup object


- 1 On the Canvas toolbar, click Select. 
The Select tool is active.
- 2 On the canvas or in the Markups palette, select the desired markup.
- 3 If the markup selection handles are gray, right-click the selected markup and uncheck Lock. Only unlocked markup objects can be cut.
Markup selection handles change from gray to yellow.
- 4 Cut or copy the selected markup.
 - Click Markup & Measure tab ► Clipboard panel ► Cut. 

The selected markup is removed from the canvas and the Markups palette and a copy is stored in memory.


- Click Markup & Measure tab ► Clipboard panel ► Copy. 
A copy of the selected markup is stored in memory.

5 Optional: Change the view, select a different sheet, or open another DWF file in a separate window to receive the copied markup.

6 Click where you want to paste the markup object.

- 7 Click Markup & Measure tab ► Clipboard panel ► Paste. 
The markup is pasted to the selected location.

To delete a markup object

- 1 On the Canvas toolbar, click Select. 
The Select tool is active.
- 2 On the canvas or in the Markups palette, select the desired markup.
- 3 If the markup selection handles are gray, right-click the selected markup and uncheck Lock. Only unlocked markup objects can be deleted. Markup selection handles change from gray to yellow.
- 4 Right-click the selected markup and choose Edit ► Delete.
The markup is deleted from the Markups palette and the canvas.

TIP In the Markups palette, you can also right-click a markup and select Delete.

See also:


- [Copy the Current View](#) on page 258

Change Markup Properties

In the Markup Properties palette, four properties can be changed for each markup: Label, Lock Markup, Status, and New Note. After saving the DWF file, the changes are shown in the markup's History the next time you open the DWF file.

NOTE Markup properties can be changed even if a markup is locked.

To change markup properties

- 1 In the Thumbnails or List View palette, select the sheet that contains the markup whose properties you want to change.
- 2 Select the markup on the canvas or in the Markups palette.
- 3 Optional: In the Markup Properties palette, in the Label text box, select the current label text and type a new label for the markup.
When you select another markup property or tool, notice in the Markups palette, that the selected markup label changes to the new label.
- 4 Optional: From the Status drop-down list, select a status.
Notice in the Markups palette, to the left of the markup name, the icon changes from None  to the desired status icon. The markup color also changes on the canvas to reflect its status.
- 5 Optional: Check or uncheck Lock Markup to disallow or allow other markup modifications.
Notice in the Markups palette, to the left of the markup name, the lock icon changes to indicate the current locking state.
- 6 Optional: In the Markup Properties palette, in the New Note text box, type the desired information.

IMPORTANT Before closing the DWF file, make sure that your note is edited the way you want it. Existing notes are no longer editable once you reopen a DWF file.

You can now save the DWF file and send it to someone else for revision of the drawing or continued exchange of markup and discussion.

See also:

- [Markup Status](#) on page 30
- [Save DWF Files](#) on page 227
- [Email an Open DWF File from Design Review](#) on page 254

Save a Summary of Markups

Design Review can create an accessible summary of all markups contained in the open DWF file. Saved as a comma-separated value (CSV) file, the markups summary can be shared and opened by a wide variety of database, spreadsheet, and word processor programs. The summary lists markups and their respective properties.

- Markup number
- Sheet name
- Markup type
- Markup label
- Markup text
- Creator
- Created date and time stamp
- Status
- Modified date and time stamp
- History

To save a summary of markups

- 1 Click the application button ► Save As ► Save Markups Summary.



The Save Markups Summary dialog box opens.



TIP You can also save a summary by clicking Home tab ► File panel ► Save As drop-down list and selecting Save Markups Summary.

- 2 In the File Name text box, type the name of the file.
- 3 Optional: Navigate to the location where you want to store the file
- 4 Click Save.
- 5 When notified that the markup summary was saved successfully, click OK.

Snapping Markups to 2D Objects

Enabled by default, snaps are specific points on markup objects, except for freehand shapes, drawings, or model geometry that behave like magnets. Snaps enable you to connect a markup object to another markup object or to geometry on a 2D sheet.

Design Review displays snaps as you move the mouse pointer over a markup object, drawing, or model geometry. Snaps are located at key points and along the contour of the markup or geometry. The icon indicating a key snap point

is red with a white center.  The icon indicating snap points along the contour between key points is solid red. 

To disable snapping markups to 2D objects

- 1 Click Home tab ► expand the View panel.
- 2 Uncheck Snap to Geometry.

Repeat these steps to re-enable snapping markups to 2D objects.

NOTE Snapping cannot be disabled for 3D markups.

Almost all types of markup can be snapped to the sheet or model content as well as to other markup, with these exceptions: callouts with revision clouds, freehand markups, and custom symbols. However, these markup exceptions can be snapped to by other markup.

To disconnect snaps

- Drag one markup object away from another.

Snapping Priority

As a markup is drawn or dragged near an object, several snap points may be near each other. In this case, Design Review displays the snaps according to the following priority:

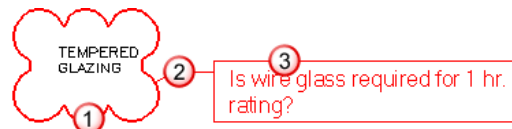
- 1 Intersection
- 2 Endpoint, corner, midpoint, or center
- 3 Geometry

For example, if Snap to Geometry is enabled and you draw a Line shape toward the intersection of two lines, the shape would snap to the intersection of the lines rather than to the midpoint of one of the lines. Where snap settings have the same priority, the snap target that is closer to the mouse pointer is chosen.

Callouts for 2D Content

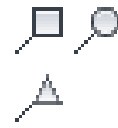


About Callouts for 2D Content

Callout markups enable you to provide comments about 2D and 3D content in the canvas area. All callouts have a callout text box and a leader line. The callout enables you to provide a textual comment or annotation about content on the canvas. The leader line enables you to connect, or snap, the callout to an object on the canvas. Some callout markups have revision clouds. Revision clouds help identify the part or parts of the drawing associated with a callout text box.



The parts of a 2D markup callout: 1. revision cloud, 2. leader line, 3. callout text box

For 2D content, you have many more choices on the Callouts panel on the Markup & Measure tab.

Tool	Description
	Shaped callouts with no revision clouds. Use any of these three tools to create a rectangle, circle, or triangle callout without a revision cloud.
	Shaped callouts with rectangle revision clouds. Use any of these three tools to create a rectangle, circle, or triangle callout with a rectangular revision cloud.
	Shaped callouts with polyclouds. Use any of these three tools to create a rectangle, circle, and triangle callout with a polygon revision cloud.

See also:

- [Markup Basics](#) on page 161

Create a Callout for 2D Content

The canvas view settings that are active at the time a markup is created are shown when a markup is selected.










WARNING When viewing a DWFx file in the Microsoft XPS Viewer, only markups placed completely on a sheet are shown. Markups that extend beyond the sheet are truncated.

To create a callout for 2D content

- 1 Open the DWF file that contains the 2D content you want to mark up.
- 2 Optional: [Disable snaps](#) on page 179.

- 3 Optional: Modify the canvas view settings by zooming and positioning the contents on the canvas as desired.
- 4 Click Markup & Measure tab ► Callouts panel ► click the desired callout.




The mouse pointer changes to a crosshair.

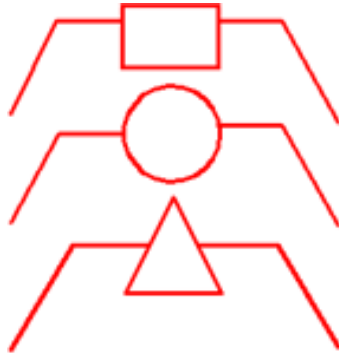
- To create a rectangle , circle , or triangle  callout with no revision cloud, place the mouse pointer over the drawing where you want to begin the leader line and click. Then drag the callout to the desired location and click again to set the callout position.
- To create a rectangle , circle , or triangle  callout with a rectangle revision cloud, place the mouse pointer over the drawing where you want to begin the revision cloud and click. Drag the mouse pointer diagonally to surround the location associated with the callout, and click again to finish the revision cloud and start the leader line. Then drag the callout to the desired location and click again to set the callout position.
- To create a rectangle , circle , or triangle  callout with a polygon revision cloud, place the mouse pointer over the drawing where you want to begin the revision cloud and click and drag the mouse pointer. Click to create each segment of the polygon revision cloud, and either double-click the starting point of the polygon revision cloud, or right-click the canvas to close the polygon revision cloud.

TIP You can constrain the angle of each polygon segment in 15° increments by pressing and holding Shift as you drag the mouse pointer. You can also press Backspace to delete the last segment you created.

- 5 Type text in the callout text box.
The callout text box expands to accommodate the text.
- 6 Click outside the callout to complete it.
The callout is shown on the canvas and listed in the Markups palette under the sheet to which the markup was added.
- 7 Optional: Modify the callout.

Multiple Leader Lines and Cloudless Callouts

On 2D sheets, rectangle , circle , and triangle  callout callouts that do not have revision clouds enable you to add and remove leaders. The benefit of additional leaders is that one callout can point to multiple locations on the same sheet.



Only 2D callouts without revision clouds can have multiple leader lines

To add a leader line to a cloudless callout


- 1 On the canvas, select the callout you want to modify.
- 2 If the markup selection handles are gray, right-click the selected markup and uncheck Lock.
Markup selection handles change from gray to yellow.
- 3 Right-click the callout and select Add Leader.
A new leader is connected to the callout.
- 4 Move the mouse pointer where you want the new leader to point.
- 5 Click to set the end point of the new leader.
The Add Leader tool remains active.
- 6 Optional: Continue adding new leader lines to the selected callout.
- 7 To stop using the Add Leader tool, right-click anywhere on the canvas, press Esc, or select another tool.

- Optional: Reposition a leader by selecting and dragging the leader end point to the new location.

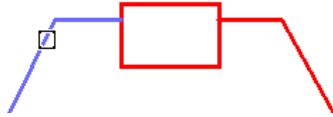
TIP You can also reposition the location where a leader bends, called the elbow, by dragging that elbow handle left or right.

To remove a leader line from a cloudless callout

- On the canvas, select the callout you want to modify.
- If the markup selection handles are gray, right-click the selected markup and uncheck Lock. Markup selection handles change from gray to yellow.
- Right-click the callout and select Remove Leader.

The mouse pointer changes to the Remove Leader tool. 

- Move the mouse pointer over the leader you want to remove.



- Click the leader to remove it. The Remove Leader tool remains active.
- Optional: Continue removing leader lines from the selected callout.
- To stop using the Remove Leader tool, right-click anywhere on the canvas, press Esc, or select another tool.

See also:








- [Markups Palette](#) on page 30
- [Manipulate Markup Objects](#) on page 166
- [Edit Text Markups](#) on page 173
- [Change Markup Properties](#) on page 176
- [Create a Callout for 3D Content](#) on page 197
- [Secure Markups](#) on page 164




Draw 2D Markups

About 2D Drawing Markup Tools

You can draw shapes on 2D sheets using the tools on the Drawing panel.

NOTE You cannot draw shapes directly on a 3D sheet. You must first take a [snapshot](#) on page 155 of the 3D content.

2D Drawing Markup Tools	
Tool	Description
	Line. Creates a line shape markup.
	Polyline. Creates a polyline or polygon shape markup.
	Freehand. Creates a freehand shape markup.
	Rectangle. Creates a rectangle or square shape markup.
	Ellipse. Creates an ellipse or circle shape markup.
	Text Box. Creates a standalone text box markup. Unlike callouts, text box markups are not associated with a particular object on a sheet.
	Freehand Highlighter. Creates a freehand highlight shape markup.

Tool	Description
	Rectangle Highlighter. Creates a rectangle highlight shape markup.
	Rectangle Cloud. Creates a leaderless rectangle or square cloud shape markup.
	PolycLOUD. Creates a leaderless polycLOUD shape markup.



Draw a 2D Markup

The canvas view settings that are active at the time a 2D markup is created are those shown when a markup is selected.

To draw a markup





- 1 Open the DWF file that contains the 2D content where you want to draw shapes.
- 2 Optional: [Disable snaps](#). on page 179
- 3 Optional: Modify the canvas view settings by zooming and positioning the contents on the canvas as desired.
- 4 Click Markup & Measure tab ► Draw panel ► click the desired drawing tool.

The mouse pointer changes to a crosshair.


- To create a line shape  , click to define the starting point, move the mouse pointer, and click again to set the endpoint. Before setting the endpoint, you can constrain a line angle to 15° increments by pressing and holding Shift.
- To create a polyline shape  , click to define the starting point, move the mouse pointer, and click to create each segment. Press and hold Shift to constrain the angle of each polyline segment to 15°




increments. Press Backspace to delete the last polyline segment created. Double-click to set the endpoint.

TIP You can also create a closed polygon by clicking the polyline shape starting point. Once you close a polyline creating a polygon, it is automatically filled with the current fill color.

- To create a freehand shape  , click and hold the left mouse button to define the starting point and drag to draw. Release the mouse button to set the endpoint.
- To create a rectangle shape  , click to define the starting point, move the mouse pointer, and click again to set the endpoint. Before setting the endpoint, you can press and hold Shift while drawing a rectangle to create a square shape.
- To create an ellipse shape  , click to define the starting point, move the mouse pointer, and click again to set the endpoint. Before setting the end point, you can press and hold Shift while drawing an ellipse shape to create a circle shape.
- To create a text box  , you have two choices. You can click once to create a text box that is one character wide with a small margin, or you can click and drag a text box to a desired size. Clicking once creates a text box with an undefined width; the text will not wrap. Clicking and dragging a text box diagonally sets the text box width, which will cause the text to wrap at the right border.

TIP By default, text boxes show no border. To show a border, click Markup & Measure tab ► Formatting panel uncheck No Border to display a text box border.

- To create a freehand highlight shape  , click and hold the left mouse button to define the starting point and drag to draw. Release the mouse button to set the endpoint.

- To create a rectangle highlight shape , click to define the starting point, move the mouse pointer, and click again to set endpoint. Before setting the endpoint, you can press and hold Shift while drawing a rectangle to create a square shape.
 - To create a rectangle cloud shape , click to define the starting point, move the mouse pointer, and click again to set the endpoint. Before setting the endpoint, you can also press and hold Shift while drawing a rectangular cloud to create a square cloud shape.
 - To create a polygon cloud shape , click to define the starting point, move the mouse pointer, and click to create each segment. Press and hold Shift to constrain the angle of each polyline segment to 15° increments. Press Backspace to delete the last segment created. Click the polygon cloud shape starting point to set the endpoint.
- 5 To stop using the selected drawing tool, press Esc or select another tool. The markup is shown on the canvas and listed in the Markups palette under the sheet to which the markup was added.
 - 6 Optional: Reposition or resize the markup.

See also:

- [Markup Basics](#) on page 161


Change 2D Line Patterns

Unlike 3D markups, 2D markups can have different line patterns. Any 2D lines (Line, Polyline, Freehand, Rectangle, Ellipse, Text Box, and leader lines) can have line patterns applied.

NOTE Line patterns cannot be applied to markup revision clouds.

To change 2D line patterns

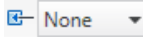
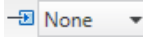
- 1 On the canvas or in the Markups palette, select the desired 2D markup or markups.

- 2 Click Markup & Measure tab ► Formatting panel ► Line Pattern drop-down list. 
- 3 Select the desired line pattern.
The Line Pattern is applied.

See also:

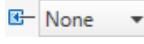
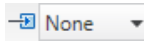
- [Format Markups](#) on page 169

Change 2D Line Start and End Styles

Unlike 3D markups, 2D markups can have different end styles for the start and end styles. Any 2D markup with lines (Freehand, Line, Polyline, and callouts with leaders) can have arrow styles applied. Each line can have a different Line Start Style  and Line End Style .

NOTE Line start and end styles can be applied to locked or unlocked markup objects.

To change 2D line start and end styles

- 1 On the canvas or in the Markups palette, select the desired 2D markup or markups with lines or leaders.
- 2 Select a line start and end style.
 - Click Markup & Measure tab ► Formatting panel ► Line Start Style drop-down list  and select the desired start style.
The Line Start Style is applied.
 - Click Markup & Measure tab ► Formatting panel ► Line End Style drop-down list  and select the desired end style.
The Line End Style is applied.

See also:

- [Format Markups](#) on page 169


Stamp a 2D Sheet

A stamp is a text markup you can add to a 2D sheet to indicate its status in the design review process. Design Review includes seven predefined stamps: Approved, For Review, Final, Not to Scale, Not for Construction, Preliminary, and Rejected. Predefined stamps cannot be deleted.



Stamps can be modified like other text boxes

To stamp a 2D sheet

- 1 Open the DWF file that contains the 2D content you want to stamp.
- 2 Optional: Modify the canvas view settings by zooming and positioning the contents on the canvas as desired.
- 3 Click Markup & Measure tab ► Stamps & Symbols panel ► Stamps drop-down. 
- 4 Select the desired stamp.
- 5 On the 2D sheet, click where you want to position the lower, left corner of the stamp.
The stamp is placed on the canvas and remains selected.
The stamp is shown on the canvas and listed in the Markups palette under the sheet to which the markup was added.
- 6 Optional: Reposition or resize the stamp.
- 7 Optional: Double-click the stamp to modify the text.

See also:

- [Markup Basics](#) on page 161
- [Use Symbols](#) on page 191
- [Manipulate Markup Objects](#) on page 166

- [Edit Text Markups](#) on page 173

Use Symbols

About Symbols

Custom symbols can be made from 2D content in DWF files. You can create a separate symbol from each object, or block, if the block template information was included in the DWF file when it was published by a design application, such as AutoCAD. (For nested objects, only the top-level object is imported.) You can also create a separate symbol from each 2D sheet in the DWF file, regardless of how many objects are on a sheet.

As a type of markup, symbols can be used and reused on any 2D sheet. The benefit of symbols is the easy access to and consistent reuse of common symbols.

In addition to DWF files with drawings and text, you can also use DWF files with images or snapshots as symbols. Image types include:

- Sheets created by the Snapshot tool.
- JPEG (.jpg, .jpeg, .jpe, .jfif)
- PNG (.png)
- TIFF (.tif, .tiff)

The initial size of the image is determined by the [dpi](#) on page 300 supplied when the image was created. If there is no dpi information in the source image, Design Review creates it at 150 dpi. If an image was created with a transparent layer (called “alpha transparency”), the transparency is recognized in Design Review.

The background of a custom symbol is transparent. Symbols cannot be edited or formatted, and scale is ignored when converting DWF files to symbol catalogs.

See also:

- [Markup Basics](#) on page 161
- [Create a New 2D Sheet by Taking a Snapshot](#) on page 155

Import a DWF File as a Symbol Catalog

To use custom symbols in Design Review, first import 2D DWF file content. These imported items become a catalog available from the Symbols drop-down. The individual items are arranged on the catalog submenu and can then be applied to 2D sheets in other DWF files.

TIP If you are having trouble importing an older DWF file as a symbol catalog, you may need to update its DWF version. Open the older DWF file in Design Review and save it to update the older file to the latest DWF version, which can then be imported as a custom symbol catalog.

To import each sheet as a symbol in a catalog

- 1 With any 2D sheet open on the canvas, click Markup & Measure tab ►

Stamps & Symbols panel ► Symbols drop-down.



- 2 Click Create Catalog.
The Import DWF File as Symbol Catalog dialog box opens.
- 3 Navigate to where the DWF file that contains the symbols you want to import is stored.
- 4 Select the DWF file and click Open.
The Add Symbol Catalog dialog box opens.
- 5 Accept the default catalog name or type a new name. Use a unique name for each catalog. Design Review prevents duplicate names. If you use the name of an existing catalog, you are prompted to replace the existing catalog.
- 6 Select Import Each Sheet as a Symbol.
- 7 Click OK. If the DWF file is password-protected, a dialog box opens prompting for the password. Enter the password and click OK.
A message informs you about the successful catalog creation and how many symbols it contains. The new catalog is added to the Symbols drop-down in alphabetical order, and each symbol is listed in a submenu.

To import each object on a sheet as a symbol in a catalog, the block template information must have been included in the DWF file when it was published

by the design application. (For nested objects, only the top-level object is imported.)

After importing objects as symbols, you can select a symbol label based on a published property or you can allow Design Review to apply an incremental catalog name to all symbols. If you select a symbol label based on a published property, such as Name, each symbol will have the Name property associated with it when the object was published. If you cancel the Symbol Labels dialog box, incremental symbol labels based on catalog name will be given to the imported symbols. For instance, if the catalog is named Pipes, Design Review label each symbol Pipes 1, Pipes 2, and so on.

If you have imported each object on a sheet as a symbol, you can see both its markup properties and its object properties in the Properties palette.

To import each object on a sheet as a symbol in a catalog

- 1 With any 2D sheet open on the canvas, click Markup & Measure tab ►

Stamps & Symbols panel ► Symbols drop-down.



- 2 Click Create Catalog.
The Import DWF File as Symbol Catalog dialog box opens.
- 3 Navigate to where the DWF file that contains the symbols you want to import is stored.
- 4 Select the DWF file and click Open.
The Add Symbol Catalog dialog box opens.
- 5 Accept the default catalog name or type a new name. Use a unique name for each catalog. Design Review prevents duplicate names. If you use the name of an existing catalog, you are prompted to replace the existing catalog.
- 6 Select Import Each Object on Sheets as a Symbol.
- 7 Click OK. If the DWF file is password-protected, a dialog box opens prompting for the password. Enter the password and click OK. The Symbol Labels dialog box opens.
- 8 Select a property, such as Name, to use for symbol labels.
- 9 Click OK.

A message informs you about the successful catalog creation and how many symbols it contains. The new catalog is added to the Symbols drop-down in alphabetical order, and each symbol is listed in a submenu.

See also:

- [Remove a Symbol Catalog](#) on page 195

Place a Symbol on a Sheet

Once you import a symbol catalog to Design Review, you can place custom symbols on a DWF sheet.

To place a symbol on a sheet

- 1 Open the DWF file that contains the 2D content to which you want to add the symbol.
- 2 Optional: Modify the canvas view settings by zooming and positioning the contents on the canvas as desired.
- 3 Click Markup & Measure tab ► Stamps & Symbols panel ► Symbols

drop-down.



- 4 Select the desired catalog and symbol.
- 5 On the 2D sheet, click where you want to position the center of the symbol. The symbol is placed and remains selected.
The symbol is shown on the canvas and listed in the Markups palette under the sheet to which the markup was added.
- 6 Optional: Reposition or resize the symbol.

See also:


- [Stamp a 2D Sheet](#) on page 190

Remove a Symbol Catalog

You can remove an entire symbol catalog. You cannot remove an individual symbol directly from a catalog. However, you can remove the sheet or object from the original DWF file, republish the DWF file, and re-import the catalog.

To remove symbol catalogs

- 1 Click Markup & Measure tab ► Stamps & Symbols panel ► Symbols

drop-down. 

- 2 Click Remove Catalog.
The Remove Symbol Catalogs dialog box opens.
- 3 Check the catalog items to be removed.
 - To remove one catalog, check the corresponding check box.
 - To remove more than one catalog, check the corresponding check boxes.
 - To remove all catalogs, click Select All.
- 4 Click OK.
- 5 When prompted, “Are you sure you want to remove the selected catalogs?”, click OK.

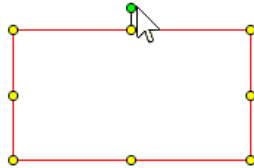
Rotate Markup Objects

Design Review enables you to rotate markup objects on a 2D sheet. You can rotate the following markup objects:

- Text boxes
- Rectangles and ellipses
- Stamps
- Symbols

To rotate markup objects

- 1 On the canvas or in the Markups palette, select the desired markup.
- 2 If the markup selection handles are gray, right-click the selected markup and uncheck Lock. Only unlocked markup objects can be rotated. Markup selection handles change from gray to yellow. On top of the markup object, the rotation handle changes to green.



Rotation handle for a rectangle object

- 3 Click the rotation handle and drag it in the direction you want to rotate the object. The mouse pointer changes into an active rotation icon and the object rotates according to the mouse pointer movement.



Active rotation icon when the object rotates

TIP During rotation, the object will soft snap at 90° increments. To rotate the markup object at 45° increments, press and hold Shift as you rotate the markup object.

See also:


- [Rotate 2D Sheets](#) on page 69

Markup 3D DWF Files

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About Callouts for 3D Content

Like 2D callout markups, 3D callout markups enable you to provide comments about content in the canvas area. Unlike 2D callouts, for 3D content only the

Rectangle Callout  is available from the Callouts panel on the Markup & Measure tab.

To access the 2D markup tools, take a snapshot of the 3D content. A snapshot creates a 2D sheet, enabling the 2D markup tools.

See also:

- [Markup Basics](#) on page 161
- [Create a New 2D Sheet by Taking a Snapshot](#) on page 155

Create a Callout for 3D Content

The canvas view settings that are active at the time a markup is created are those shown when a markup is selected.

To create a callout for 3D content

- 1 Open the DWF file that contains the 3D model you want to mark up.
- 2 Optional: Modify the canvas view settings by zooming and orbiting the view as desired.

- 3 Click Markup & Measure tab ► Callouts panel ► Rectangle Callout.



The mouse pointer turns into a crosshair.

- 4 Place the mouse pointer over the model where you want to begin the leader line and click to set the leader line.
- 5 Move the mouse pointer to the location where you want to place the callout text box and click again to set the callout text box position.
- 6 Type the text in the callout text box.
The callout text box expands to accommodate the text.
- 7 Click outside the callout to complete it.
The callout is shown on the canvas and listed in the Markups palette under the sheet to which the markup was added.
- 8 Optional: Modify the callout.

NOTE You cannot add additional leader lines to a 3D callout.

See also:

- [Markups Palette](#) on page 30
- [Manipulate Markup Objects](#) on page 166
- [Edit Text Markups](#) on page 173
- [Change Markup Properties](#) on page 176
- [Create a Callout for 2D Content](#) on page 181
- [Secure Markups](#) on page 164

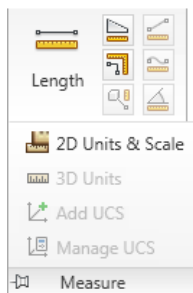
Measure Objects in DWF Files

19

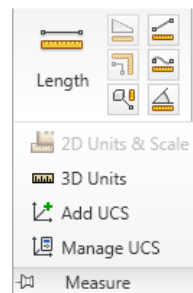
About Measurements

Design Review enables you to add and save measurement markups for 2D and 3D content using the Measure panel on the Markup & Measure tab. Like the View panel on the Home tab, the Measure tab can be expanded to access additional tools. The type of content displayed on the canvas, 2D or 3D, determines which measurement tools are enabled.

Measurement Tools Enabled by Type of Content



For 2D content



For 3D content

Each measurement markup may consist of a line or lines, arrowheads, and a label with text and a background color. After you create a measurement markup, its Font Size, Text Color, Line Weight, Line Color, Fill Color, Line Style, Fill Transparency, and whether or not dimension text is Bold can be changed, if

necessary, using the Formatting panel on the Markup & Measure tab. If no markup is selected on the canvas, but a measurement tool is active, then any changes made using the formatting tools affects all new markups.

TIP To make it easier to modify measurement markups, select them in the Markups palette.


See also:

- [Format Markups](#) on page 169
- [About the Units and Scale Dialog Box](#) on page 203
- [About the 3D Units Dialog Box](#) on page 212

About Measure-Disabled DWF Files

Generally, Design Review enables you to measure both 2D and 3D objects. However, in some cases, measurements are prevented. Users of Autodesk® Inventor® R11 DWF Extension (available to subscription customers) or later can disable the measurement options for some or all sheets or models in the published DWF file.

If a sheet is measure-disabled, you will not be able to measure the disabled content. When a measure-disabled sheet is displayed on the canvas, the measurement tools are disabled.

NOTE If a file contains disablements, a lock icon  is shown on the Canvas toolbar and in the Restrictions column of the List View palette.

See also:

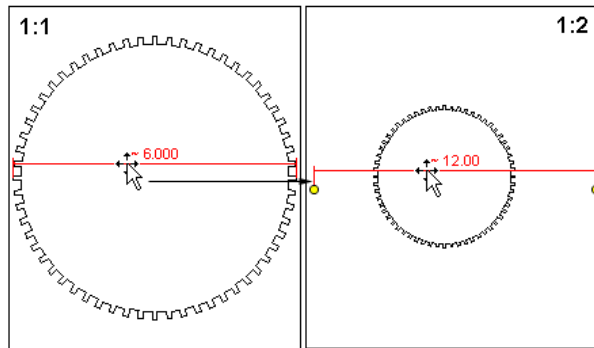
- [About Disabled DWF Files](#) on page 45
- [Secure Markups](#) on page 164

Measurements with Multiple Viewports

You may be working on a sheet with several [viewports](#) on page 303. The original designer creates the view in a viewport by panning, zooming, or, for 3D,

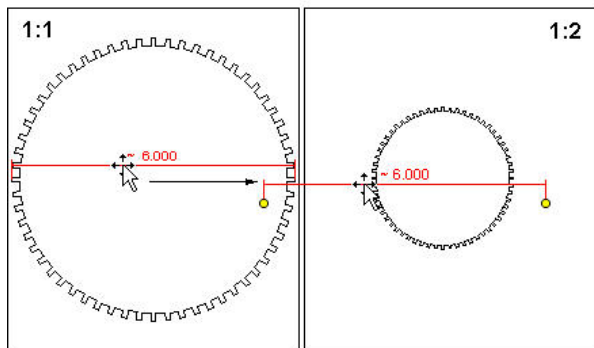
rotating the drawing or a section of it. Each sheet may have one or more viewports, each of which may have a different scale.

If you move a measurement markup completely into another viewport or sheet, the measurement markup is updated according to the scale of the viewport or sheet to which you moved it.



Moved measurement markup takes scale of new viewport

If you start a measurement on one viewport or sheet and end it on another viewport or sheet, the measurement reflects the scale of the starting viewport or sheet.

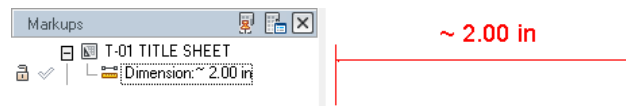


Measuring between viewports, the measurement scale is based on that of the viewport where the measurement starts

Measure 2D Objects

About 2D Measurements

When you measure an object on the canvas, Design Review tracks the label name and the unit of measurement in the Markups palette. Measurements of 2D objects are labeled as “Dimension: xxx.xx units”, for example, “Dimension: 4.33 in”. When you select a measurement markup in the Markups palette, the appropriate sheet is displayed on the canvas, and the view pans and zooms to the view that was active when the markup was created.



A 2D measurement in the Markups palette

If the sheet is not measure-disabled, and if the measurement markups are unlocked, they can be selected, deleted, or resized. The measurement markup label can also be repositioned.

In a measurement markup label, the numeric values cannot be directly edited, since the purpose of a measurement markup is to indicate the measurement of the selected points. You can, however, reposition the handles on a 2D measurement markup, thereby creating a different value.

TIP You can also modify the markup label in the Markup Properties palette.

As you measure an object, the highlight and selection colors are determined by the Object Highlighting settings on the Sheet tab in the Options dialog box.

See also:

- [About Measurements](#) on page 199
- [Markup Basics](#) on page 161
- [Sheet Tab \(Options Dialog Box\)](#) on page 269

About Precise 2D Measurements

The accuracy and precision of a measurement is affected by the resolution and paper size of the original drawing, and the zoom at which you create the measurement. You can ask the DWF file publisher to change the paper size (which will have a corresponding change to the drawing scale) or ask the publisher to change the [resolution](#) on page 302 according to your needs. If you have the DWG file, publish it at a higher resolution from DWG TrueView. Note, however, that using a higher [dpi](#) on page 300 setting will marginally increase the DWF file size and may result in slower performance sharing the file, opening it, and changing the view.

In AutoCAD, the default publishing resolution for a DWF file is 1200 dpi. This resolution provides the same security as a printed drawing, from which it would be challenging to recreate the original DWG file. You may therefore receive a DWF file with a 6-inch length, which would be displayed as 5.98 inches, for example. If you receive a measurement such as 5.98 for a length that you know should be a round number, you can pan and zoom in on a measurement markup [handle](#) on page 301 to reposition it more precisely, so it displays a round figure, such as 6.00.

About the Units and Scale Dialog Box

The 2D Units and Scale dialog box enables you to control the precision displayed by 2D measurement markups for each 2D sheet in the DWF file. Measurements can be in Imperial (feet and inches) or metric units.

In Design Review, the units and scale from the original drawing are used by default. However, if the original drawing did not specify units of measurement, only numeric values of the measurement are displayed in the resulting DWF file. You may set the units and scale for all measurements yourself either before or after a measurement markup has been created for each 2D sheet in a DWF file.

NOTE You can use 2D measurement tools for most georeferenced maps. However, if a map does not contain a published [coordinate system](#) on page 300 and the units are latitude and longitude, the measure-related tools are disabled.

A drawing has both drawing units and display units. Drawing units are the intended units of measurement of the real-world object. Because a 10-foot by 10-foot room cannot be represented on screen at its full size, each unit in a drawing represents its real-world unit, such as a foot in this case. (If you select

inches, it displays 10 inches by 10 inches. If you select centimeters, it displays 10 cm by 10 cm. If you select feet, it displays 10 feet by 10 feet.) If the drawing units are unknown, the measurements display as “10 by 10”.

Display units are the units displayed in the measurement markups. Unless you change the display units, the display units match the drawing units. A 10-foot by 10-foot room is displayed as 10 feet by 10 feet, but it can also be displayed as 120 inches by 120 inches, 3.048 m by 3.048 m, 304.8 cm by 304.8 cm, and so on. Display units cannot be applied until the drawing units are known.

Drawing Units

Units of the Drawing from which This Sheet Was Published Select Unknown (disables remaining options), Inches, Feet, Feet and Inches, Yards, Miles, Millimeters, Centimeters, Meters, Kilometers, [Points](#) on page 302, or [Twips](#) on page 303.

Make This the Default for DWF Files That Don’t Have 2D Units Apply the selected drawing units to all 2D sheets in DWF files opened after the setting has been applied.

Display Units

Units to which Drawing Units Will Be Converted When Displaying Measurements Select Unknown (disables remaining options), Inches, Feet, Feet and Decimal Inches, Feet and Fractional Inches, Yards, Miles, Millimeters, Centimeters, Meters, Kilometers, Points, or Twips.

Decimal Control display precision by selecting Automatic or up to eight decimal places to be displayed in a 2D measurement markup. Automatic uses the level of precision included in the DWF file when it was published.

Fractional When Feet and Fractional Inches is the display units selection, control display precision by selecting Automatic or up to 1/256th of an inch to be displayed in a 2D measurement markup. Automatic uses the level of precision included in the DWF file when it was published.

Make This the Default for DWF Files That Don’t Have 2D Units Apply the selected drawing units to all 2D sheets in DWF files opened after the setting has been applied.

Scale

Scale If a scale was set when the DWF file was published, that scale is reflected in the measurements displayed in Design Review. You cannot change the scale of a drawing in which the scale was set by the authoring application. If Scale is enabled, a 1-to-1 scale is displayed for the open drawing. It shows 1" = 1" (1 inch equals 1 inch) for Feet and Inches or 1:1 for metric scale, depending on whether the drawing was set in Imperial (feet and inches) or metric. Custom

Scale enables you to enter a custom scale using the On Page and Actual options. For example, a 1" = 10' (1 inch equals 10 feet) custom scale designates that each inch displayed in the drawing represents 10 feet in the real world.

On Page Enter the value for measurements in the drawing.

Actual Enter the value you want measurements to represent in the real world.

Set Precision for 2D Measurement Markups

To set precision for 2D measurement markups

- 1 Click Markup & Measure tab ► expand the Measure panel.
- 2 Select 2D Units & Scale.
The 2D Units and Scale dialog box opens.
- 3 In the Drawing Units area, from the Units of the Drawing from which This Sheet Was Published drop-down list, select the desired units.
This setting is saved with the DWF file for the current sheet.
- 4 Optional: Click Make This the Default for DWF Files That Don't Have 2D Units to have these units applied to all 2D sheets in DWF files after this setting has been applied.
- 5 In the Display Units area, from the Units to which Drawing Units Will Be Converted When Displaying Measurements drop-down list, select the desired units.
This setting is saved with the DWF file for the current sheet.
- 6 Under Display Precision, from the Decimal drop-down list, select the number of decimal places to be displayed in a 2D measurement markup.
- 7 If Feet and Fractional Inches was selected in the Units to which Drawing Units Will Be Converted When Displaying Measurements drop-down list, from the Fractional drop-down list, select up to 1/256th of an inch to be displayed in a 2D measurement markup.
- 8 Optional: Click Make This the Default for DWF Files That Don't Have 2D Units to have these units applied to all 2D sheets in DWF files after this setting has been applied.
- 9 From the Scale drop-down list, select a scale.
If you select Custom Scale, enter the On Page and Actual values.

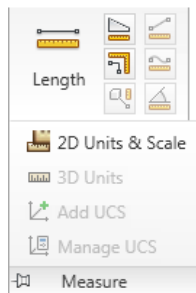
NOTE Scale is disabled if the scale of a drawing was set by the authoring application.

10 Click OK.




Measurement Tools for 2D Objects

The measurement tools can be accessed from the Measure panel on the Markup & Measure tab.

The type of content displayed on the canvas, 2D or 3D, determines which measurement tools are available on the Measure panel. When measuring 2D objects, you have three measurement tools available: Length, Polyline, and Area.

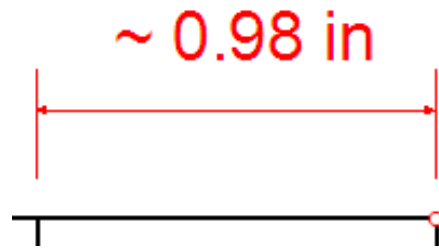


Measurement tools for 2D objects

Measurement Tools for 2D Objects	
Tool	Description
	Length. Measures the straight line distance between any two points.
	Polyline. Measures the total cumulative length of multiple segments, including rectangles.
	Area. Measures the area of the traced polygon or rectangle.

Snapping Measurements to 2D Objects

When measuring an object, the measurement tools for 2D content snap the resulting markup to that object. Snapping is especially important for measurements, as the snap points determine the measurements displayed. Snaps are enabled by default.



Snaps display as small red circles

To disable snapping measurements to 2D objects

- 1 Click Home tab ► expand the View panel.
- 2 Uncheck Snap to Geometry.

Repeat these steps to re-enable snapping measurements to 2D objects.

NOTE Snapping cannot be disabled for 3D markups.

Repeat this step to re-enable snapping measurements to objects.

See also:

- [Snapping Markups to 2D Objects](#) on page 179


Create 2D Measurements

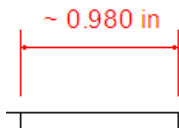
Before you create 2D measurement markups, you may want to set formatting options for the markup, select the desired drawing units, display units, and scale in the Units and Scale dialog box, and if desired, disable the Snap to Geometry option.

Measure the Length Between Two Points

When making vertical measurements, you can position the label to the right or left of the measurement markup. To have a label appear on the right, begin the measurement by clicking the top point first. To have measurements appear on the left, begin the measurement by clicking the bottom point first.

To measure the length between two points

- 1 Click Markup & Measure tab ► Measure panel ► Length. 
- 2 On the sheet, place the mouse pointer where you want to begin the measurement and click to set the start point.
- 3 Place the mouse pointer where you want to end the measurement and click to set the end point.



The measurement markup displays the length in the chosen format and units. A measurement appears in the Markups palette as Dimension: xxx.xxx units. The Length tool remains active for other measurements.

- 4 Optional: Make additional measurements.
- 5 To stop using the Length tool, press Esc or select another tool.

TIP Pressing Esc while measuring cancels the current measurement, but leaves the measuring tool active. Pressing Esc again cancels the Measure tool, making the Select tool active.

- 6 Optional: Modify the measurement markup position by clicking between handles and dragging the markup to a different location. You can also click and drag markup start and end handles, but this will change the markup value.

After making horizontal Length measurements, the label always appears centered above the measurement line. You can move this label horizontally along the measurement markup.

To move the label of a measurement markup


- 1 Select the desired measurement markup.
- 2 Place the mouse pointer over the middle handle and pause until the handle gets larger.
- 3 Click and drag the larger handle to the desired position along the measurement markup.

TIP Drag the middle handle up or down to reposition the markup value relative to the measurement.

Measure the Length of a Polyline

A cumulative length tool, the Polyline tool displays the length of multiple linear segments, including rectangles.

To measure the length of a polyline

- 1 Click Markup & Measure tab ► Measure panel ► Polyline. 
- 2 On the sheet, place the mouse pointer where you want to begin the measurement and click to set the start point.
- 3 Click each subsequent point to be added to the polyline.

TIP To constrain a polyline measurement in 15° increments, press and hold Shift while rotating a polyline segment. The line will rotate at 15°, 30°, 45° and so on.

- 4 End the polyline measurement.
 - Press Esc to end the polyline measurement at the last corner created.
 - Double-click to end the polyline measurement at the last point clicked.



The measurement markup displays the cumulative length in the chosen format and display units. A measurement appears in the Markups palette

as “Dimension: xxx.xxx units”. The Polyline tool remains active for other measurements.


- 5 Optional: Make additional measurements.
- 6 To stop using the Polyline tool, press Esc or select another tool.

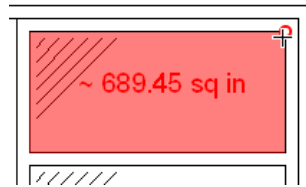
TIP Pressing Esc while measuring cancels the current measurement, but leaves the measuring tool active. Pressing Esc again cancels the measure tool, making the Select tool active.

- 7 Optional: Modify the measurement markup position by clicking between handles and dragging the markup to a different location. You can also click and drag the markup handles, but this will change the markup value.

Measure the Area of a Rectangle or Polygon

To measure the area of a rectangle or polygon

- 1 Click Markup & Measure tab ► Measure panel ► Area. 
- 2 On the sheet, place the mouse pointer where you want to begin the measurement and click to set the start point.
- 3 Click each subsequent corner point on the rectangle or polygon.
- 4 End the area measurement.
 - Press Esc to end the area measurement at the last corner created.
 - Double-click to end the polyline measurement at the last point clicked.



The measurement markup displays the area in the chosen format and display units. A measurement appears in the Markups palette as “Dimension: xxx.xxx units”. The Area tool remains active for other measurements.

- 5 Optional: Make additional measurements.

- 6 To stop using the Area tool, press Esc or select another tool.

TIP Pressing Esc while measuring cancels the current measurement, but leaves the measuring tool active. Pressing Esc again cancels the measure tool, making the Select tool active.

- 7 Optional: Modify the measurement markup position by clicking between handles and dragging the markup to a different location. You can also click and drag the markup handles, but this will change the markup value.

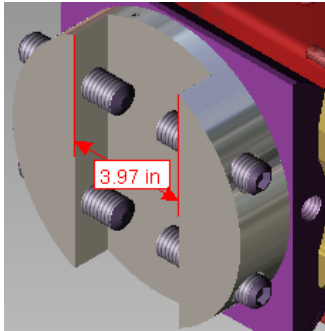
See also:

- [About Markup Properties](#) on page 163
- [Secure Markups](#) on page 164

Measure 3D Objects

About 3D Measurements

When you measure an object on the canvas, Design Review tracks the label name and the unit of measurement in the Markups palette. Measurements of 3D objects are labeled based on the type of measurement being performed and the value is displayed as “xxx.xx units”, for example “Diameter: 1.50 in”. The units are determined by the Display Units chosen for the open sheet. When you select a measurement markup in the Markups palette, the appropriate sheet is displayed on the canvas, and the view pans and zooms to the view that was active when the markup was created.



A 3D measurement

If the model is not measure-disabled, and if the measurement markups are unlocked, measurement markups on the canvas can be selected and deleted. The measurement markup label can also be repositioned. The numeric values cannot be directly edited, since the purpose of a measurement markup is to indicate the measurement of the selected points.

TIP You can also modify the markup label in the Markup Properties palette.

As you measure an object, the highlight and selection colors are determined by the Object Highlighting settings on the Model tab in the Options dialog box.

TIP To make it easier to modify measurement markups, select them in the Markups palette.

See also:

- [About Measurements](#) on page 199
- [Markup Basics](#) on page 161
- [Model Tab \(Options Dialog Box\)](#) on page 270

About the 3D Units Dialog Box

The 3D Units dialog box enables you to control the precision displayed by 3D measurement markups for each 3D sheet in the DWF file. Measurements can be in Imperial (feet and inches) or metric units.

In Design Review, the units from the original model are used by default. However, if the original model did not specify units of measurement, only numeric values of the measurement are displayed in the resulting DWF file. You may set the units for all measurements yourself either before or after a measurement markup has been created for each 3D sheet in a DWF file.

Display Units

Units for 3D Length Measurements Select Unknown (disables Display Precision options), Inches, Feet, Feet and Decimal Inches, Feet and Fractional Inches, Yards, Miles, Millimeters, Centimeters, Meters, or Kilometers.

Units for 3D Angle Measurements Select Degrees or Radians.

Make This the Default for DWF Files That Don't Have 3D Units If checked, the Display Units settings is the default for DWF files that do not already have published Display Units.

Display Precision

Decimal Control display precision by selecting Automatic or up to eight decimal places to be displayed in a measurement markup. Automatic uses the level of precision included in the DWF file when it was published.

Fractional When Feet and Fractional Inches is the display units selection, control display precision by selecting Automatic or up to 1/256th of an inch to be displayed in a 3D measurement markup. Automatic uses the level of precision included in the DWF file when it was published.

Precision settings are used for all DWF files viewed on this computer.

Set Precision for 3D Measurement Markups

A model only has display units. Display units are the units displayed in 3D measurement markups on the canvas and in the Markups palette.

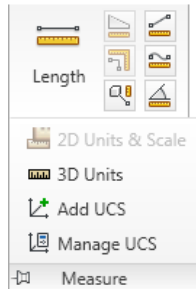
To set precision for 3D measurement markups

- 1 Click Markup & Measure tab ► expand the Measure panel.
- 2 Select 3D Units.
The 3D Units dialog box opens.
- 3 In the Display Units area, from the Units for 3D Length Measurements drop-down list, select the desired units.
This setting is saved with the DWF file for the current sheet.

- 4 Optional: Click Make This the Default for DWF Files that Don't Have 3D Units.
- 5 In the Display Precision area, from the Decimal drop-down list, select the number of decimal places to be displayed in a 3D measurement markup.
- 6 If Feet and Fractional Inches was selected as Units for 3D Length Measurements, from the Fractional drop-down list, select up to 1/256th of an inch to be displayed in a 3D measurement markup.
- 7 Click OK.

Measurement Tools for 3D Objects


The type of content displayed on the canvas, 2D or 3D, determines which measurement tools are available. For 3D objects, there are five measurement tools: Length, Point Location, Relative Distance, Length/Radius, and Angle. Expand the Measure panel to show two tools that help you work with user coordinate systems ([UCS](#) on page 303).


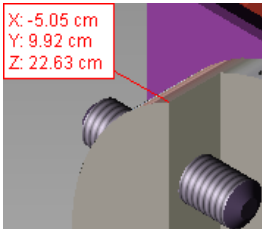




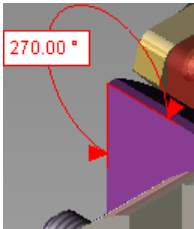


Measurement tools for 3D objects

The last tool used remains active in the Markup panel. 3D measurements can be made with Perspective View turned on.

Measurement Tools for 3D Objects

Tool	Description
	Length. Measures the straight line distance between any combination of points, lines, and planes.

Tool	Description
	<p>Point Location. Locates the X,Y,Z location of points on a model, measured relative to the currently active coordinate system on page 300.</p>
	
	<p>Relative Distance. Measures distance along a direction defined by some other edge of the model.</p>
	<p>Length/Radius. Measures edge length, the radius of an arc, or the diameter of a circle with a single click. Radius measurements are preceded by the radius symbol (R). Diameter measurements are preceded by the diameter symbol ()</p>
	<p>Angle. Measures angles between lines and lines, lines and planes, and planes and planes.</p>
	

See also:

- [About Measure-Disabled DWF Files](#) on page 200
- [About Coordinate Systems](#) on page 216
- [Use Perspective View](#) on page 71

About Coordinate Systems

A coordinate system is a method used to indicate object position in dimensional space. By default, when a sheet containing 3D content is displayed on the canvas in Design Review, the World Coordinate System ([WCS](#) on page 303) is active and the Y axis points upward. You can define additional coordinate systems, called User Coordinate Systems ([UCS](#) on page 303), for each sheet that contains a 3D model. The origin and axes of a UCS are relative to the WCS. Each UCS enables you to set up a point of reference for a particular set of point location measurements, and is represented by a new tripod at the defined location on the model.

Both the world and user coordinate systems are represented by tripods. Each tripod axis is color coded: the X axis is red; the Y axis is green; and the Z axis is blue. These tripods can be hidden or displayed as needed.

User coordinate systems allow point location measurements to be taken in the context in which they are used in the real world. For example, when locating a hole for machining, real world measurements are taken with respect to edges of the part, not to an abstract WCS.

Since the frame of reference may be different at various places on the same model, multiple UCSs can be created. However, only one coordinate system can be active at the once. The active coordinate system tripod is the largest on the canvas. Inactive coordinate systems tripods are reduced in size.

Each UCS is listed in the Markups palette order in which it was created. If a point location measurement has been added to a UCS, it is listed below its respective UCS in the Markups palette.

When you create and activate a UCS, a drop-down list is displayed under the ViewCube. From this list, you can quickly select a different coordinate system or open the Manage Coordinate Systems dialog box to change the settings of an existing UCS or create other coordinate systems.

See also:

- [Show or Hide Coordinate System Tripods](#) on page 222
- [Use the ViewCube](#) on page 76

About the Manage Coordinate Systems Dialog Box

The Manage Coordinate Systems dialog box enables you to copy, manipulate, and delete user coordinate systems for the sheet displayed on the canvas. The World Coordinates is read only. It cannot be moved, modified, or deleted, as indicated by the lock icon displayed to the left of World Coordinates in the Available Coordinate Systems list.

Available Coordinate Systems

Available Coordinate Systems Lists the WCS and all UCSs in the order they were created.

Activate Makes the selected coordinate system active.

Copy Makes a copy of the selected coordinate system.

Delete Deletes the selected UCS.

Selected Coordinate System Position

Location of Origin in World Coordinates Current position of the selected UCS origin in relation to the origin of the WCS.

X. Enter a value, either positive or negative, to change the X coordinate of the selected UCS origin relative to the WCS.

Y. Enter a value, either positive or negative, to change the Y coordinate of the selected UCS origin relative to the WCS.

Z. Enter a value, either positive or negative, to change the Z coordinate of the selected UCS origin relative to the WCS.

Axis Directions Flip X Axis. Flips current X axis 180°.

Flip Y Axis. Flips current Y axis 180°.

Flip Z Axis. Flips current Z axis 180°.

Offset Selected Coordinate System

Move Selected Coordinate System from Current Location by X. Type the number of units to move the origin relative to the X axis.

Y. Type the number of units to move the origin relative to the Y axis.

Z. Type the number of units to move the origin relative to the Z axis.

Display Coordinate Systems on Top Displays coordinate systems in front of 3D objects.

Add a User Coordinate System

In Design Review, you can add a user coordinate system to a 3D model directly. When adding a UCS, camera tools, like Orbit, can be used during the measurement process, in case you must reposition the model.

To begin adding a UCS, you can click either a point or an edge of a 3D model. If you first click a point, or vertex, on a model, this sets the origin of the UCS tripod. The next two clicks define the X and Y axes. If you click a model edge first, this sets the X axis. The next click defines the Y axis. The Z axis is set automatically.

After adding a new UCS, it becomes the active coordinate system.

To add a UCS directly to a point on a 3D model

- 1 Click Markup & Measure tab ► expand the Measure panel.
- 2 Click Add UCS.
The mouse pointer changes to a crosshair.
- 3 On the model, place the mouse pointer over the point where you want to begin creating the UCS and click to set the origin.
- 4 Optional: To position the model so you can see where you want to begin setting the UCS, expand and pin the Measure panel, use the desired camera tool, and click the Add UCS again to resume adding the UCS.
- 5 On the model, place the mouse pointer over the next point or edge where you want to define the X axis and click to set the X axis.
- 6 On the model, place the mouse pointer over the next point or edge where you want to define the Y axis and click to set the Y axis.
The UCS tripod is displayed on the canvas and listed in the Markups palette. Placing the mouse pointer over a UCS shows its name in a screen tip.

To add a UCS directly to an edge on a 3D model

- 1 Click Markup & Measure tab ► expand the Measure panel.
- 2 Click Add UCS.
The mouse pointer changes to a crosshair.
- 3 On the model, place the mouse pointer over the edge where you want to begin creating the UCS and click to set the X axis.

- 4 Optional: To position the model so you can see where you want to begin setting the Y axis, expand and pin the Measure panel, use the desired camera tool, and click the Add UCS again to resume adding the UCS.
- 5 On the model, place the mouse pointer over the next point or edge where you want to define the Y axis, and click to set the Y axis.
The UCS tripod is displayed on the canvas and listed in the Markups palette. Placing the mouse pointer over a UCS shows its name in a screen tip.

Manage Coordinate Systems

The Manage Coordinate Systems dialog box enables you to manage all coordinate-system related actions, including activating, copying, renaming, and deleting user coordinate systems.

NOTE The WCS is read only. It cannot be moved, modified, or deleted, as indicated by the lock icon in the Manage Coordinate Systems dialog box.

Activate a Coordinate System

Before you can add point location measurements to a coordinate system, you must first activate it.

To activate a coordinate system

- 1 Click Markup & Measure tab ► expand the Measure panel.
- 2 Click Manage UCS.
The Manage Coordinate Systems dialog box opens.
- 3 From the Available Coordinate Systems list, select the coordinate system to be activated.
- 4 Click Activate.
- 5 Click Apply to activate the UCS and leave the Manage Coordinate Systems dialog box open, or click OK to activate the UCS and close the Manage Coordinate Systems dialog box. Clicking Close before clicking either Apply or OK, closes the dialog box, but does not activate the user coordinate system.

TIP You can also activate an existing UCS by selecting it or one of its markups in the Markups palette, by clicking either the markup or the UCS on the canvas, or by selecting the UCS from the drop-down list below the ViewCube.

Copy a Coordinate System

From the Manage Coordinate Systems dialog box, you can make a copy of the WCS or of another UCS.

NOTE You can manage the location of a selected UCS in relation to the WCS, flip the axes of a selected UCS, and offset the position of a selected UCS at any time.

To copy a coordinate system

- 1 Click Markup & Measure tab ► expand the Measure panel.
- 2 Click Manage UCS.
The Manage Coordinate Systems dialog box opens.
- 3 From the Available Coordinate Systems list, select the coordinate system to be copied.
- 4 Click Copy.
A copy of the selected coordinate system is added to the list.
- 5 Optional: Under Location of Origin in World Coordinates, enter X, Y, and Z values to change the location of the selected user coordinate system origin away from the WCS.
- 6 Optional: Under Axis Directions, check the axis or axes you want to flip.
- 7 Optional: Under Offset User Coordinates, enter X, Y, and Z values to move the selected user coordinate system from its current location.
- 8 Click Apply to apply changes to the copied UCS and leave the Manage Coordinate Systems dialog box open, or click OK to apply changes to the copied UCS and close the Manage Coordinate Systems dialog box. Clicking Close before clicking either Apply or OK, closes the dialog box, but does not apply any changes to the copied UCS.

Rename a User Coordinate System

When you add or copy a UCS, it is named “User coordinates n”, where “n” is a number that is one greater than the highest number currently listed. You can rename a UCS at any time.

To rename a user coordinate system

- 1 Click Markup & Measure tab ► expand the Measure panel.
- 2 Click Manage UCS.
The Manage Coordinate Systems dialog box opens.
- 3 From the Available Coordinate Systems list, double-click the user coordinate system to be renamed. The UCS name text box becomes active.
- 4 Type the new name for the UCS and press Enter.
- 5 Click Apply to rename the UCS and leave the Manage Coordinate Systems dialog box open, or click OK to rename the UCS and close the Manage Coordinate Systems dialog box. Clicking Close before clicking either Apply or OK, closes the dialog box, but does not rename the user coordinate system.

Delete a User Coordinate System

When you delete a UCS, all point location measurements associated with the UCS are also deleted.

WARNING Deleting a UCS deletes all markup that was created while that coordinate system was active.

To delete a user coordinate system

- 1 Click Markup & Measure tab ► expand the Measure panel.
- 2 Click Manage UCS.
The Manage Coordinate Systems dialog box opens.
- 3 From the Available Coordinate Systems list, select the user coordinate system to be deleted.
- 4 Click Delete.
- 5 Click Apply to delete the UCS and leave the Manage Coordinate Systems dialog box open, or click OK to delete the UCS and close the Manage

Coordinate Systems dialog box. Clicking Close before clicking either Apply or OK, closes the dialog box, but does not delete the user coordinate system.

TIP In the Markups palette or on the canvas, right-click the UCS you want to delete and click Delete.

Show or Hide Coordinate System Tripods

By default, all coordinate system tripods are hidden on the canvas. However, you can show them as desired.

To show or hide coordinate system tripods on the canvas

- 1 Click Home tab ► expand the View panel.
- 2 Check Coordinate Systems.
The coordinate system tripods are shown on the canvas.

TIP Right-click the canvas and choose Show ► Coordinate Systems.

Repeat these steps to hide coordinate systems.


Repeat this step to restore the coordinate system tripods.

Create 3D Measurements

Before you create 3D measurement markups, you may want to set formatting options for the markups and select the desired display units and precision settings for the label text in the Units dialog box. Unlike 2D measurement markups, snapping is always enabled when creating 3D measurements.

Measure the Distance Between Two Points

To measure the distance between two points

- 1 Click Markup & Measure tab ► Measure ► Length. 
- 2 On the canvas, place the mouse pointer where you want to begin the measurement and click to set the start point.

- 3 Optional: Using the ViewCube, the Orbit tool, or any other 3D view tools position the model so you can see where you want to set the measurement end point.

Click Length again to resume measuring.

- 4 Place the mouse pointer where you want to end the measurement and click to set the end point.
- 5 Drag to position the label and click to complete the measurement markup.
The measurement markup displays the distance between the two points in the chosen format and units. A measurement appears in the Markups palette as “Length: xxx.xxx units”. The Length tool remains active for other measurements.



TIP If the measurement lines are obscured by an object, the lines are dashed.

- 6 Optional: Make additional measurements.
- 7 To stop using the Length tool, press Esc or select another tool.
- 8 Optional: Click and drag the label along the measurement markup to reposition it.

Measure the Distance from a Point to the Origin of a Coordinate System

To measure the distance from a point to the origin of a coordinate system

- 1 Optional: In the Markups palette, select the desired UCS to make it active. If no UCS is selected or available, the current coordinate system is used.

- 2 Click Markup & Measure tab  Measure  Point Location.

- 3 On the model, place the mouse pointer where you want to create the point location measurement and click to set the point.

TIP To view the measurement value without adding a measurement markup, press Esc to cancel the point location measurement.

- 4 Drag the label to the desired location and click to place the label.
The measurement markup displays the distance of the point from the selected coordinate system in the chosen format and units. A measurement appears in the Markups palette as “Location: X: xxx.xxx units Y: xxx.xxx”.


units Z: xxx.xxx units". The Point Location tool remains active for other measurements.

TIP If the measurement lines are obscured by an object, the lines are dashed.

- 5 Optional: Make additional measurements.
- 6 To stop using the Point Location tool, press Esc or select another tool.
- 7 Optional: Modify the measurement markup label position by clicking and dragging it to a new location.

Measure Distance Along a Direction Defined by an Edge

To measure distance along a direction defined by an edge

- 1 Click Markup & Measure tab ► Measure ► Relative Distance. 
- 2 Click a model edge, two vertices, or an axis on a coordinate system tripod to set a reference direction for the measurement.
- 3 On the model, place the mouse pointer where you want to begin the relative measurement and click to set the start point.
- 4 Optional: Using the ViewCube, the Orbit tool, or any other 3D view tools position the model so you can see where you want to set the measurement end point.

Click Relative Distance  again to resume measuring.

- 5 Place the mouse pointer where you want to end the measurement and click to set the end point.
- 6 Drag to position the label and click to complete the measurement markup. The measurement markup displays the distance between the two points, relative to the set reference point in the chosen format and units. A measurement appears in the Markups palette as "Relative Length: xxx.xxx units". The Relative Distance tool remains active for other measurements.

TIP If the measurement lines are obscured by an object, the lines are dashed.




- 7 Optional: Make additional measurements.
- 8 To stop using the Relative Distance tool, press Esc or select another tool.

- 9 Optional: Click and drag the label along the measurement markup to reposition it.

Measure the Length/Radius of an Object

The Length/Radius tool can measure the length of a line, the radius of an arc, or the diameter of a circle.

To measure the length of a line, radius of an arc, or diameter of a circle

- 1 Click Markup & Measure tab  Measure  Length/Radius. 
- 2 On the model, place the mouse pointer over the object to be measured:
 - Click a line to measure its length.
 - Click an arc to measure its radius.
 - Click the center of a circle to measure its diameter.
- 3 Optional: Using the ViewCube, the Orbit tool, or any other 3D view tools position the model so you can see where you want to place the label.

Click Length/Radius  again to resume measuring.

- 4 Drag to position the label and click to complete the measurement markup. The measurement markup displays the measurement in the chosen format and units. A measurement appears in the Markups palette as “Length: xxx.xxx units”, “Radius: xxx.xxx units”, or “Diameter: xxx.xxx units”. The Length/Radius tool remains active for other measurements.

TIP If the measurement lines are obscured by an object, the lines are dashed.


- 5 Optional: Make additional measurements.
- 6 To stop using the Length/Radius tool, press Esc or select another tool.
- 7 Optional: Click and drag the label along the measurement markup to reposition it.


Measure an Angle

The angle being measured depends on where you position the label. For example, when measuring a simple right angle, if the label is inside the angle,

the measurement is 90°. However, if the label is outside the angle, the measurement is 270°.

To measure an angle

- 1 Click Markup & Measure tab ► Measure ► Angle. 
- 2 On the model, place the mouse pointer over the line or plane where you want to begin the measurement and click to set the start point.
- 3 Optional: Using the ViewCube, the Orbit tool, or any other 3D view tools position the model to show other areas of the model that you may want to include in the measurement.

Click Angle  again to resume measuring.

- 4 Place the mouse pointer over the line or plane where you want to end the measurement and click to set the end point.

TIP If the measurement lines are obscured by an object, the lines are dashed.

- 5 Drag to position the label. The location of the label determines which angle is measured.
- 6 Click to complete the measurement markup.
The measurement markup displays the angle in the chosen format and units. A measurement appears in the Markups palette as “Angle: xxx.xxx units”. The Angle tool remains active for other measurements.
- 7 Optional: Make additional measurements.
- 8 To stop using the Angle tool, press Esc or select another tool.
- 9 Optional: Click and drag the label to select a different, associated angle.

See also:

- [About Markup Properties](#) on page 163
- [Secure Markups](#) on page 164

Save DWF Files

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Save DWF Files

Saving a new file in Design Review saves it the default file type. You can change the default file format in the Options dialog box.

Saving or renaming an existing DWF file retains the original file format when it was opened. You can change the file type each time you save from the Save as Type drop-down list in the Save File dialog box.

When saving an older DWF file, Design Review opens a dialog box to warn you that the file is about to be upgraded to the latest version of the DWF file format. Click Cancel to retain the original file in the older DWF file format. Click OK to upgrade the file format.

If you anticipate that your DWFX files will be viewed using the Microsoft XPS Viewer, be aware that the XPS file format only supports JPEG, PNG, and TIFF image files from Design Review. So when saving a DWF file as a DWFX file, any images not supported by the XPS format are converted automatically and stored in the resulting DWFX file as PNG images.


WARNING If a DWFX file contains disablements, it cannot be saved as a DWF file. The DWFX file with disablements must be republished as a DWF file from the originating design program.

About Saving an Open PDF as a DWF File

Design Review cannot save an open PDF file in the Adobe PDF file format. If you modify an open PDF file, you must save it as a DWF file to retain the modifications. When saving the PDF file as a DWF file, the PDF content is saved as raster images. You can specify the resolution of the raster images on the PDF

Conversion tab in the Options dialog box before saving. The original PDF file remains unchanged.

To save a new, rename an existing, or save an existing file as another file type


- 1 Click the application button ► Save As ► Save as DWFx/DWF. 
The Save File dialog box opens.

WARNING Re-saving a digitally signed DWFx file, invalidates the digital signature.

- 2 Optional: Navigate to the location where you want to store the file.
- 3 In the File Name text box, type the name of the file.
- 4 Optional: From the Save as Type drop-down list, select the desired file format.
- 5 Click Save.

NOTE If no changes have been made to the open DWF file, Save is disabled.

To save changes to an existing DWF file

- Click the application button ► Save. 
Changes are saved, overwriting the original file.

TIP You can also click the Save button  on the Quick Access toolbar.

WARNING Saving changes to a digitally signed DWFx file, invalidates the digital signature.

See also:

- [DWF Format](#) on page 268
- [Warn When Upgrading Earlier Versions of DWF](#) on page 268
- [About a Digital Signature](#) on page 233


- [Save a Summary of Markups](#) on page 177
- [About Resolution](#) on page 49
- [About Opening PDF Files](#) on page 47
- [PDF Conversion Tab \(Options Dialog Box\)](#) on page 274

Save a DWF File to Buzzsaw

Autodesk® Buzzsaw® can help your organization centralize project-related documents, simplify communication, and streamline collaboration. When saving a DWF file from Design Review to Buzzsaw, the original file format is retained by default. If the file is a DWF file, it is saved to Buzzsaw as a DWF file. If a file is a DWFX file, it is saved to Buzzsaw as a DWFX file.

NOTE When you save a file to Buzzsaw, your Buzzsaw user name, rather than your Windows login name becomes the author property of the file.

To save a DWF file to Buzzsaw

- 1 In Design Review, save any modifications you have made to the open file.
- 2 Click the application button ► Save As ► Save to Buzzsaw. 
The Buzzsaw Login dialog box opens.
- 3 Enter your User Name, Password, and the Site.

TIP You can also have Design Review remember your Buzzsaw password.

- 4 Click OK.
The Save File to Buzzsaw dialog box opens.
- 5 Optional: Navigate to the location where you want to store the DWF file.
- 6 Optional: In the File Name text box, type the name of the file.
- 7 Click Save.
- 8 After the file has been transferred successfully to the Buzzsaw site, click OK.

See also:

- [Open a DWF File from Buzzsaw](#) on page 52

Save a DWF File to Freewheel

The Autodesk Project Freewheel® website allows you to view and collaborate with design data without installing additional software. The ability to save a DWF file to the Autodesk Project Freewheel website for online reviewing has some prerequisites:

- An active Internet connection
- The Autodesk® Freewheel® plug-in must be installed
- An Autodesk Consolidated Login user ID and password

With an active Internet connection, the first time you click the application button ► Save As ► Save to Freewheel, a browser window opens, offering you an opportunity to download and install the Freewheel plug-in. The next time, when you save to Freewheel, you will be prompted register or to sign in, if you already have a user ID and password.

IMPORTANT Save to Freewheel requires an active Internet connection.

To save a DWF file to Freewheel

- 1 Open the DWF file you want to save to Freewheel.

- 2 Click the application button ► Save As ► Save to Freewheel.



The Publish to Freewheel dialog box opens. You are prompted to accept the Terms of Use.

- 3 Click OK.

A browser window opens and you may be prompted to log in.

- 4 Enter your User ID, Password, and click Submit.

The DWF file is shown in a browser window.

See also:

- [Get Design Review Plug-ins](#) on page 149

About a Digital Signature

A [digital signature](#) is a method used to maintain file authenticity and to provide a safe environment for sending and receiving data. A digital signature provides several benefits.

- The signature in a DWFX file informs the viewer if the file has been altered or saved since it was signed.
- The digital signature has a copy of the certificate used to sign the DWFX file, so the certificate and associated information can be viewed in Design Review.

A digital signature is not the same as a digitized signature. While a digital signature helps prove your identity and file authenticity, a digitized signature is nothing more than an electronic version of your own hand-written signature. A digitized signature can be forged and copied, and has no real security value.

Before you can add a digital signature to a file, you must have a valid public key certificate, or certificate, typically issued by a certificate authority, installed on your computer. A certificate contains a name, serial number, expiration date, and other information that certifies the digital signature. For more information about obtaining a certificate, search the Web for “digital certificate”.

About Certificates

Certificates work on a trust hierarchy, or chain. In a trust hierarchy, the root certificate is the certificate of the issuing certificate authority. Browsers, such as Microsoft Internet Explorer, already include the root certificates of the major certificate vendors, making those certificates automatically trusted.

Before you can digitally sign a DWFX file, you must first have certificate installed on your computer. Similarly, when you receive a DWFX file that contains a digital signature from a certificate authority that is not recognized by your computer, for example, a certificate issued by your company's internal IT department, you need to install the sender's root certificate before you can determine if the certificate in the digital signature is valid. To learn how to install a certificate, search the Windows Help file for "certificate".

Add a Digital Signature to a DWFX File

Design Review 2010 can be used to digitally sign DWFX files. Only the DWFX file format supports digital signatures. The DWF file format does not support digital signatures. When attempting to digitally sign a DWF file, you are prompted to save it as a DWFX file.

If a DWF file contains markup-, measure-, or printing-disablements, it cannot be converted from the DWF to DWFX file format in Design Review. Consequently, it is not possible to sign disabled DWF files. The DWF file with disablements must be republished as a DWFX file from the originating design program before it can be signed using Design Review.

Digitally signed DWFX files can only be viewed in Design Review 2010. If recipients have an older version of Design Review, these versions do not recognize that the DWFX file was digitally signed.

NOTE Add Digital Signature is not available when viewing an embedded DWFX file. However, you can view digital signature details by clicking the digital signature icon in the Canvas toolbar.

In some cases, an older version of Design Review may present a warning dialog box, but the message does not specifically identify that the DWFX file was digitally signed. It only indicates that the file contains an unsupported feature. Whether or not a warning is shown, the file still opens. As a result, the recipients using an older version of Design Review may unknowingly save changes to the signed file, invalidating the digital signature. Before you distribute a digitally signed file, notify recipients they need to upgrade to the latest version of Design Review to retain the valid digital signature.

WARNING The Microsoft XPS Viewer does not support digitally signed DWFX files.

Working with Digitally Signed DWFx Files

Once you have a digitally signed DWFx file open, you can view it like any other file, but modifying the DWFx file content in any way invalidates the original digital signature if you re-save the file. The next person to open that DWFx file is notified that the original digital signature is invalid, suggesting that the DWFx file was modified since it was originally signed.

NOTE Before digitally signing a DWFx file, you must have a digital certificate installed.

To add a digital signature to a DWFx file

1 If necessary, open the DWFx file you want to digitally sign.

2 Click the application button ► Security ► Add Digital Signature. 

If the DWFx file is already digitally signed, click Yes to continue.

The Add a Digital Signature dialog box opens.

3 Select a valid certificate.

4 Optional: To view certificate information, click View Certificate. To return to the Add a Digital Signature dialog box, click OK.


5 To digitally sign the DWFx file, click OK.

If prompted to save the file as a DWFx file, click Yes to continue.

The View Signature Details dialog box opens.

6 Click OK.

On the Canvas toolbar, a digital signature icon indicates the DWFx file

was signed successfully. 

Re-sign a DWFx File

After you sign a DWFx file, you may need to make additional modifications to the same file before offering it to others. Saving changes invalidates your first signature, so you need to sign the DWFx file again.

See also:

- [What are DWF and DWFx?](#) on page 1

- [About Disabled DWF Files](#) on page 45
- [Limitations of Embedded DWF Files](#) on page 263

View Digital Signature Details


When a DWFX file contains a digital signature, upon opening the file, the View Signature Details dialog box opens showing information about the signature.

- Validity of the digital signature
- Whether or not the file was modified since signing
- A summary pertaining to the certificate used to sign the file

NOTE Click View Certificate for more details about the certificate.

- The name of the person or organization that signed the file

Once a digitally signed DWFX file is open, a digital signature icon is also shown


on the Canvas toolbar. 

A digital signature may be valid or invalid. A digital signature may be invalid if the file was modified after it was digitally signed.

To view digital signature details of a signed DWFX file

- 1 Open the View Digital Signature dialog box.
 - Open a digitally signed DWFX file.
 - Click the application button ► Security ► View Signature Details.



- On the Canvas toolbar, click the digital signature icon. 

The View Signature Details dialog box opens, showing whether or not the digital signature is valid, whether or not the file has been modified since being signed, and who signed the DWFX file.

- 2 Optional: For more details, click View Certificate. The Certificate dialog box opens, showing additional details.
When done viewing details, click OK.
- 3 Click OK to close the View Signature Details dialog box.

About Print-Disabled DWF Files

In addition to disabling measurement and markup, designers using Autodesk® Inventor® 2008 or later can prevent some or all sheets in a published DWF file from being printed. If the DWF file contains sheets that are not print-disabled, the Print command is enabled even when a print-disabled sheet is shown on the canvas.

NOTE If a file contains disablements, a icon  is shown on the Canvas toolbar and in the Restrictions column of the List View palette.

See also:

- [About Disabled DWF Files](#) on page 45

About the Print Dialog Box

The Print dialog box enables you to control all Design Review printing options.

Printer

Name From the Name drop-down list, select an available printer. After selecting a printer, more information about that printer is shown. Status shows the condition of the selected printer. Type shows information about the selected printer. Location, if available, shows physical location information about the selected printer. Comments, if available, shows notes and details about the selected printer.

Properties Click Properties to open a dialog box provided by the selected printer manufacturer. See the manufacturer Help for information about a specific printer.

NOTE Some manufacturer printer properties can conflict with properties defined in Design Review. If so, the last option that you selected (whether in Design Review or in the manufacturer print dialog box) is applied.

Always Use This Printer Select to make the printer in the Name drop-down list the default printer used by Design Review. If left unselected, Design Review will revert back to using the system default printer the next time Design Review starts.

Use HP Instant Printing Only available if you select an HP printer with Instant Printing capabilities from the Name drop-down list. Opens the HP Instant Printing dialog box.

Print to File Creates a file, in a format that contains raw printing data, which you can print from a command prompt. You cannot open the file.

Paper

Size Select a paper size from the drop-down list. If the printer changes, that printer's default paper size is selected.

Print Range

All Prints all sheets in the file. All is enabled only when Full Page is selected in the View drop-down list.

View Full Page prints the complete drawing, regardless of what is seen on screen. Current View prints the view on the canvas when the Print dialog box was invoked.

Current Sheet Only Prints only the sheet currently shown on the canvas.

Pages From Type a list of sheets separated by commas (1, 5, 7) or a range of sheets separated by a hyphen (1-7). If the print range contains one or more print-disabled pages, a dialog box opens listing the print-disabled content. Pages From is enabled only when Full Page is selected.

Page Handling

Copies Select the number of copies you want to print.

Collate Determine how multiple copies are printed. Collate is enabled only when more than one copy is selected.

Reverse Order If you have selected multiple sheets, select Reverse Order to print the last sheet first.

Choose Paper Source by DWF Page Size Prints the file at a size that best matches the DWF size when it was published. Choose Paper Source by DWF Page Size is unavailable when printing 3D models.

Scaling and Alignment

Fit to Page Fits the drawing to the chosen paper size reducing or increasing the scale accordingly.

Scale Scale is enabled only when printing 2D content. **Tile Pages** prints the sheets across several pieces of paper. **Clip Pages** clips the printed pages according to the selected alignment.

Alignment Alignment is enabled only when printing 2D content. When a drawing has been scaled, it may not fit to the page precisely. Alignment helps you position the content for printing. You can align 2D sheets if you select Full Page, Scale, and Clip Pages. Select: Center on Paper, Center in Printer Margins, Align to Upper Left, Align to Upper Right, Align to Lower Left, or Align to Lower Right.

Orientation

Portrait Prints the longest side vertically.

Landscape Prints the longest side horizontally.

Print Color

Sheets Specify a color setting for the file. Color prints the sheets and models in color. Black and White prints the 2D sheets in black and white and the 3D models in grayscale. Grayscale prints the sheets and models in shades of gray. This color setting only affects printing colors. It does not affect how content is shown on the canvas.

Markups Specify a color setting for the markups. Color prints the markups in color. Black and White prints the markups in black and white. Grayscale prints the markups in shades of gray. This color setting only affects printing colors. It does not affect how markups are shown on the canvas.

Preview

Preview Shows a preview of the open file with details, such as Original Size, Paper Size, Print (shows the Print Range View), and Zoom for the current view of 2D sheets. Use the buttons below the Preview area to display other sheets and models to be printed. Print Range determines which sheets are shown in the Preview area.

Advanced Opens Advanced Print Options dialog box. If experiencing printer or output issues for 2D content, select Turn Data into a Bitmap Before Printing. Consider this setting if the content being printed contains gradients or a high

number of drawn objects, markups, or images. This setting does not affect 3D content.

See also:

- [Instant Printing with HP Printers](#) on page 245
- [Print to File](#) on page 244

Print an Open File

You can print one or more sheets from an open DWF file. You also can print different views of the sheets and models, and preview your pages before printing.


Unless you select a new paper size, 3D models print on a default paper size. The model is matched to the orientation that fits it best, portrait or landscape, and then printed as it appears on screen. Viewing choices made, such as zoom, object visibility, and cross sections are also printed.


Once the desired printing options have been set, you can use the Quick Print tool to send the open file directly to the printer. Quick Print uses the existing print settings, bypassing the Print dialog box.

To print an open DWF file

- 1 Optional: If you want to print the Current View, prepare the view so that it appears on the canvas the way you want it printed.

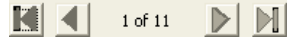
NOTE If statuses have been added to a callout markup, you can determine whether to print the markup status color in the Options dialog box, on the General tab, by changing the Use Markup Status Color Highlighting option.

- 2 Click the application button ► Print ► Print. 
The Print dialog box opens.

TIP You can also click the Print button on the File panel and the Quick Access toolbar. 

- 3 Optional: Select printing options.

- 4 Optional: Below the Preview area, click the Left and Right Arrows to preview the pages in the Print Range.




NOTE If a sheet or model is print-disabled, in the Preview area, there is a red circle with line through it when attempting to preview the page. You are prompted about the disabled content and those sheets or models do not print.

- 5 Click OK.
If you have chosen to print several pages and scale them, a message opens warning you that the pages will print across several pages, as the drawing is larger than the printable area. Click OK to close the dialog box.

To print an open file using the existing printer settings

- Click the application button ► Print ► Quick Print. 

TIP You can also use Quick Print from the Print button on the File panel and the Quick Access toolbar. 

To print a sheet or sheets from the Thumbnails or List View palette

- 1 In the Thumbnails or List View palette, select the sheet or sheets to be printed.
- 2 Right-click one of the sheets you want to print and select Print.
The Print dialog box opens. Under Print Range, the selected sheets are shown in the Pages From text box.
- 3 Optional: Select printing options.
- 4 Click OK.
Only the selected sheets are printed.

See also:

- [Sheet Tab \(Options Dialog Box\)](#) on page 269

- [About Print-Disabled DWF Files](#) on page 239
- [Print DWF Files from Windows Explorer](#) on page 246
- [Select Items](#) on page 17


Print to File

Besides printing to paper, you can also postpone printing by saving the view and print settings to a PRN file. Because the file is an intermediary step to printing, it is referred to as printing to a file. The PRN file is saved with a .prn file extension, MyDWF.prn, for example.

Printing to a file is helpful in these situations:

- To store 2D or 3D views for later printing.
- To store settings when a printer is not available (for example, when using a laptop at the job site). You can then continue working with other views and settings.

To create a PRN file

- 1 Click the application button ► Print ► Print. 
The Print dialog box opens.
- 2 Within the Printer grouping, check the Print to File option.
- 3 Optional: Set any other printing preferences.
- 4 Click OK.
The Print to File dialog box opens.
- 5 Browse to the folder in which you want to save the file.
- 6 Optional: In the File Name text box, type a file name.
- 7 Click Save.

You can print the PRN file from a [command prompt](#) on page 299.

To print a PRN file

- 1 Click Start ► All Programs ► Accessories ► Command Prompt.
The command prompt window opens.

NOTE To display the command prompt window in Windows Vista, click Start. In the Start Search text box, type `cmd` and press Enter.

- 2 If necessary, type `cd C:\`
- 3 Type `copy filename.prn lpt1 /b`
- 4 Press Enter.

If the printer is connected to a network, replace `lpt1` with the network path and printer name. Ask your network administrator for assistance, if necessary.

Instant Printing with HP Printers

Hewlett-Packard (HP) has partnered with Autodesk to provide users of Design Review with a one-click method of printing called HP Instant Printing® (HPIP). For a list of printers that have HP Instant Printing capabilities, see the HP Instant Printing website.

If your computer is connected to an HP printer with Instant Printing capabilities, you can activate this option and the HP Instant Printing button




is added to the Print choices on the application menu and Print button on the File panel. Clicking this button enables you to print the current DWF file instantly, using the previously selected HP print settings.

Available on Windows XP (Professional and Home Editions) and Windows 2000, HP Instant Printing automatically detects the paper roll size on supported HP plotters and prints all 2D pages. By default, it does not print 3D pages. To print 3D pages, uncheck the Do Not Print 3D Models option. With HP Instant Printing, you cannot specify individual pages to print. To print individual pages, use the standard Print dialog box.

If the drawing cannot be printed at full scale with the paper size you selected, HP Instant Printing tries to print it at half-size (1:2 or 50%). If the drawing cannot be printed half-size, HP Instant Printing prints it fitted to the page. A watermark is placed diagonally over the printed drawing, saying HALF SIZE or FIT TO PAGE accordingly.

Unless you have selected a different paper size, 3D sheets print on a default paper size. The model is matched to the orientation that fits it best: portrait or landscape and is printed as shown on the canvas. Perspective, object visibility, and cross sections are printed.


To print 2D or 3D content

- 1 Click the application button ► Print ► Print. 
The Print dialog box opens.
- 2 From the Name drop-down list, select an HP printer that supports instant printing.
- 3 Check the Use HP Instant Printing option.
- 4 Optional: To print 3D sheets, uncheck the Do Not Print 3D Models option.
- 5 Optional: Select a paper size.
- 6 Click OK.

All 2D sheets are printed. (3D sheets are printed if you have unchecked the Do Not Print 3D Models option.)

TIP You can also use HP Instant Printing from the Print button on the File

panel. 

The next time you print, the HP Instant Printing icon  is available on application menu from the Print command and from the Print drop-down on the File panel.

See also:

- [Learning Resources: Non-Autodesk Web Sites](#) on page ?

Print DWF Files from Windows Explorer

You can print DWF files directly from Windows Explorer or from the desktop.

To print DWF files from Windows Explorer or the desktop

- 1 Display the folder that contains the DWF file or files to be printed.
- 2 Select one or more DWF files.
- 3 Right-click the selection and select Print.

Each DWF file opens briefly in Design Review and prints using the default printer settings.

Batch Print DWF Files

Print Several DWF Files at a Time

Batch printing allows you to select multiple DWF files from local or network drives and print them all at once. You can even keep those print settings to be used again, saving you time and effort.

If a DWF file being added to a batch print job (BPJ on page 299) contains print-disabled content, only the content for which printing has not been disabled prints and a dialog box opens listing the print-disabled content. The print-disabled content is also listed in the batch print log as an error.

NOTE The Batch Print Wizard provides the opportunity to use HP Instant Printing.

To print several DWF files at a time

- 1 Click the application button ► Print ► Batch Print.



The Batch Print Wizard dialog box opens.


- 2 Click Next.

The Select DWF Files to Print window opens showing local and shared network folders.


TIP If you have a saved BPJ file, you can open it by clicking Open Saved Batch Print Job.


3 Select DWF files to print.

- a Locate and select the files or folders containing DWF files that you want to print.

- b To add the files to the batch print list, click the Add button. 

To remove selected DWF files from the batch print list, click the

Remove button. 

To reorder the DWF files in the batch print list, click the Up 

and the Down  buttons.

- c Click Next.

The Choose Print Settings for the DWF Files window opens.

TIP If you want to return to a previous window, click Back. To stop batch printing, click Cancel.

4 Optional: Specify printer settings.

- a Select a file and click Print Setup.

The Print dialog box opens.

- b Select the print options for the DWF file and click OK.

- c Optional: Specify printer settings for the other DWF files in the batch print list.

- d Click Next.

The Save or Start Batch Print Job window opens.

WARNING You cannot set print options for a folder directly. You can only set print options for an individual file. If you want to set print options for a folder, add the individual files from the folder and you can set print options for each.

- 5 Optional: To view a text file of the print job immediately after printing, check the View Batch Print Log When Job Is Complete option.

6 Optional: Click Save.

The Save As dialog box opens.

By default, the File Name text box shows the file name of the first DWF file or folder in the batch print queue. The files are saved with a .bpj file extension. You can edit a BPJ file using any text editor.

In the File Name text box, type a file name.

Click Save

7 Click Print.

8 When prompted, click Yes to save the batch print job as a BPJ file and to continue printing.

Click No to discard batch print settings, but continue printing.

Click Cancel to stop the Batch Print Wizard.

NOTE While DWF files are printing, you can click Cancel Batch Print Job.

See also:

- [Instant Printing with HP Printers](#) on page 245

Start a Saved Batch Print Job

If you have saved the print settings for DWF files as a .bpj (batch print job) file, you can print them using the Batch Print Wizard. Only one batch file can be printed at a time.

To start a batch print job

- 1** Click the application button ► Print ► Batch Print. 

The Batch Print Wizard dialog box opens.

- 2** Click Next.

The Select DWF Files to Print window opens.

- 3** Click Open Saved Batch Print Job.

The Open dialog box opens.

- 4 Locate and select the BPJ file.
- 5 Click Open.
The Choose Print Settings for the DWF Files window opens.
- 6 Click Next.
The Save or Start Batch Print Job window opens.
- 7 Optional: To view a log file of the print job immediately after printing, check the View Batch Print Log When Job Is Complete option.
- 8 Click Print.
The Printing Batch Print Job progress dialog box opens, showing the progress of the batch printing job. To cancel printing, click Cancel Batch Print Job.

Start a Batch Print Job from the Command Prompt

Before you begin, identify the locations and file names for the Design Review application (DesignReview.exe) and the BPJ file that you want to run. You need this information to perform this procedure.

To start a batch print job from the command prompt

- 1 Click Start ► All Programs ► Accessories ► Command Prompt.
The command prompt window opens.

NOTE To display the command prompt window in Windows Vista, click Start. In the Start Search text box, type `cmd` and press Enter.

- 2 At the command prompt, type `cd C:\Program Files\Autodesk\Autodesk Design Review\`

NOTE If you installed Design Review to a different location, type that location instead.

- 3 Press Enter.
- 4 At the command prompt, type `DesignReview.exe <BPJ Location and File Name>`

Replace <BPJ Location and File Name> with the actual BPJ file path and file name. For example, C:\My Batch Print.bpj

5 Press Enter.

The DWF files listed in the BPJ file are printed using the saved print settings.

Share DWF Files

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About Sharing DWF Files

Besides providing printed copies, you can share DWF files several ways.

- As an email attachment
- Save DWF files to a shared folder on a company network
- Save DWF files to an Autodesk® Buzzsaw® or Autodesk® Streamline® project folder
- Upload DWF files to an FTP server
- Save DWF files to a disk, memory card, or other device
- Embed DWF files in other file types
- Use the Autodesk® Freewheel® plug-in to share DWF files on the Autodesk Project Freewheel website

Sharing DWF Files with Other Autodesk Products

You can send a DWF file to your clients or anyone you want to review your designs. The reviewer can open the DWF file in Design Review, mark up the file electronically, and then send it back. The marked-up DWF file can then be opened in many Autodesk programs where the markups can be addressed. After making changes in the Autodesk program, you can republish the DWF file and send it out for another review. Here are some Autodesk programs that can take advantage of DWF-related capabilities.

- AutoCAD® and AutoCAD-based products

- Autodesk® Buzzsaw®
- Autodesk® Design Review
- Autodesk® FMDesktop®
- Autodesk® Inventor®
- Autodesk® Productstream®
- Autodesk Streamline®
- Autodesk® Vault
- Revit® and Revit-based products

For more details about how these programs can be used with DWF files, see the Help file for each program.

See also:

- [Learning Resources](#) on page 292
- [Embed a DWF File in Other File Types](#) on page 263

Email an Open DWF File from Design Review

You can email an open DWF file with the most current data to a customer. If new markups were added, the latest modifications are included, and you are prompted to save the DWF file.

WARNING The Send command is only available if the computer includes a [MAPI](#) on page 301 enabled email program, such as Microsoft® Office Outlook®. This feature may not be compatible with 64-bit operating systems.

To email an open DWF file from Design Review


- 1 Open the DWF file you want to send, make any necessary modifications, and save the DWF file.

- 2 Click the application button ► Send Email.



NOTE When sending an older DWF file, its file format is updated to the latest version automatically.

The default email program opens, creating an email message. The subject shows the name of the DWF file being sent. The DWF file is attached to the email automatically. In the email message, a link to the free Design Review program is provided. This link enables recipients to download the program if they do not have it installed already.

TIP You can also click the Send Email button  on the Quick Access toolbar.

- 3 In the new email message, type one or more email addresses into the To, Cc, and Bcc text boxes.
- 4 Optional: Modify the contents in the Subject text box.
- 5 Optional: Type a message.
- 6 Click Send.

The email message with the attached DWF file is sent.

Email DWF Files from Windows Explorer

You can send DWF files to email recipients directly from Windows Explorer or from the desktop.

WARNING The Sendcommand is only available if the computer includes a [MAPI](#) on page 301 enabled email program, such as Microsoft® Office Outlook®. This feature may not be compatible with 64-bit operating systems.

To email DWF files from Windows Explorer or the desktop

- 1 Display the folder that contains the DWF file or files to be emailed.
- 2 Select one or more DWF files.
- 3 Right-click the selection and select Email.

The default email program opens, creating an email message. The subject shows the name of the DWF file being sent. Each selected DWF file is attached to the email automatically. In the email message, a link to the

free Design Review program is provided. This link enables recipients to download the program if they do not have it installed already.

- 4 In the new email message, type one or more email addresses into the To, Cc, and Bcc text boxes.
- 5 Optional: Modify the contents in the Subject text box.
- 6 Optional: Type a message.
- 7 Click Send.
The email message with the attached DWF file or files is sent.

Publish and Email a New DWF File from Windows Explorer

You can publish a new DWF or DWFX file and email it directly from Windows Explorer or from the desktop. To use the Publish and Email commands on a non-DWF file, the program that originally created the file must be installed and have built-in, DWF and DWFX publishing capabilities.

If that program does not have built-in publishing capabilities, the computer attempts to use Autodesk DWF Writer if it is installed. (Autodesk DWF Writer 2008 does not publish DWFX files; 2009 is required.) Some supported, non-DWF file formats include: text files, PDF files, Word documents, Excel workbooks, and PowerPoint presentations. Only one non-DWF file can be published and emailed at a time.

For the best DWF publishing results, use a program's built-in publishing capabilities.

WARNING If Autodesk Inventor 11 or earlier is installed, right-clicking Inventor files does not display either the Publish DWF and Email or the Publish DWFX and Email command. This feature may not be compatible with 64-bit operating systems.

To publish and email a new DWF file from Windows Explorer or the desktop

- 1 Display the folder that contains the non-DWF file to be published.
- 2 Specify the format you want to publish and send.
 - Right-click the non-DWF file and select Publish DWF and Email to publish and send a DWF file.

- Right-click the non-DWF file and select Publish DWFX and Email to publish and send a DWFX file.

The file opens briefly in its original program, where it is published.

The default email program opens, creating an email message. The subject displays the name of the published DWF file, which is attached to the email automatically. In the email message, a link to the free Design Review program is provided. This link enables recipients to download the program if they do not have it installed already.

- 3 In the new email message, type one or more email addresses into the To, Cc, and Bcc text boxes.
- 4 Optional: Modify the contents in the Subject text box.
- 5 Optional: Type a message.
- 6 Click Send.

The email message with the attached DWF or DWFX file is sent.

See also:

- [About DWF Writer](#) on page 147
- [Publish a New DWF File from Windows Explorer](#) on page 148

Copy Text from the Properties Palettes

To share pieces of information contained in DWF files, you can copy sheet, markup, and [object](#) on page 302 properties and then paste them into another program.

By default, properties are grouped alphabetically in the three properties palettes: Sheet Properties, Markups Properties, and Object Properties.

TIP Right-clicking in either the Sheet Properties or Object Properties palettes and choosing View as Table shows the properties in table rows.

To copy text from a properties palette

- 1 On the canvas or in the Thumbnails or List View palette, select the markup, object, or sheet that contains the properties you want to copy.

The related properties palette opens. If not, display the palette by clicking Home tab ► Workspace panel ► Show/Hide Palettes drop-down list and selecting the related properties palette.

- 2 In the appropriate properties palette, select the desired property or properties you want to copy.
- 3 Right-click the selection and select Copy.
- 4 Paste the copied property text in the desired location.

See also:

- [Use Palettes](#) on page 20

Copy the Current View

You can copy an image of all the contents shown on the canvas and paste the image into another program.

To copy the current view of the canvas

- 1 In the open DWF file, display the sheet or model you want to copy.
- 2 Optional: Modify the view of the canvas contents.

- 3 Click Home tab ► View panel ► Copy Current View.



The current view of the canvas is copied.

- 4 Paste the copied image in the desired location.

See also:

- [Create a New 2D Sheet by Taking a Snapshot](#) on page 155

Compare 2D Content

24

About Comparing 2D Content

Design Review can be used to compare differences in vector content (geometry) between two 2D sheets in separate DWF files that have the same sheet size and unit settings. Any changes between the 2D sheets are identified as separate markups, one for Additions and one for Deletions, in the open DWF file. The Additions markup identifies the geometry that would need to be added to the original sheet to make it match the second sheet. The Deletions markup identifies the geometry that would need to be deleted from the original sheet to make it match the second sheet.

For instance, a contractor receives a new version of a DWF file, but changes were not identified by the architect. The contractor uses Design Review to compare the original sheet to the revised sheet to identify differences in the geometry, including changes in polyline attributes such as line pattern or line weight.

Design Review Comparison Capabilities

Design Review Can Compare	Design Review Cannot Compare
Polyline changes (points added, changed, and deleted, line pattern, line weight, line end cap, and line join style)	3D sheets
Polygon changes (vertices added, changed, and deleted, edge pattern, and edge weight)	Changes to 2D polylines (polyline colors, fill colors, or fill patterns such as hatch patterns)

Design Review Can Compare	Design Review Cannot Compare
Text (insertion point, text string, font name, and font size)	2D sheet scale or dpi
	Tabular data
	Metadata from object and sheet properties
	Raster images (image size or pixel colors)
	Markups (text boxes, freehand, callouts, measurements, stamps, or symbols)

Unexpected Comparison Results

Occasionally, comparing DWF files may produce some unexpected results. Since DWF is a published file format, DWF files are susceptible to the output eccentricities of publishing programs.

For instance, while testing Design Review comparison capabilities, an instance was found where Autodesk Inventor published a polyline differently in a second DWF file. In the first DWF file, the polyline was a single set of points. When publishing a subsequent DWF file, the same polyline was published as two separate sets of points. Although the polyline had not noticeably changed, and it displayed and printed the same in both DWF files, the subtle difference was detected during comparison. Be aware that Design Review will identify all geometric differences between two DWF files, whether the difference is made intentionally by a designer or unintentionally by an anomaly in a publishing program.

Another situation that may lead to unexpected results is when a DWF file being compared contains both vector (geometry) and raster (pixels) content. Since Design Review only compares vector content, the raster content is not part of the comparison.

One case where content may become a mixture of raster and vector is when 2D DWF files are published from DWG files whose model spaces are 3D. When a 2D DWF file is published from a paper space layout, a 2D view of the 3D model space is generated. This results in a raster image being created in the DWF file.


TIP To identify which content is raster content, zoom in on the suspected raster content. The raster content will become increasingly pixelated the more you zoom in.



About the Compare Dialog Box

The Compare dialog box enables you to specify which 2D sheet to use in your comparison and to control the color of the comparison markups once the comparison has been made.

Select File Click Browse to locate the desired DWF file. For larger DWF files, a progress bar will display to indicate the status of opening the file.

Select Sheet to Compare Once the DWF File to be compared is loaded, large thumbnails of the sheets in the file are shown. You can control how the sheets

are shown in the Compare dialog box by clicking the Large Thumbnails 

, Small Thumbnails , or List View  buttons.

Options Opens the Compare Options dialog box, enabling you to change the colors of the Additions and Deletions markups once the comparison has been made.


See also:

- [Change Default Color Options](#) on page 276

Identify Differences Between 2D Content

To identify differences between two 2D sheets

- 1 Open the original DWF file that contains the 2D sheet that is the basis of the comparison.

- 2 Click Tools tab ► Canvas panel ► Compare Sheets. 
The Compare dialog box opens.

- 3 To the right of the Select File text box, click Browse.

The Open File dialog box opens.

- 4 If necessary, navigate to where the DWF file that contains the 2D sheet you want to compare is stored.

- 5 Select the DWF file and click Open.

The sheets are shown in the Compare dialog box.

- 6 Optional: Change the view of the sheets by clicking the Large Thumbnails



- 7 Optional: Click Options.

The Compare Options dialog box opens.

Change the colors of the Additions and Deletions markups once the comparison has been made.

Click OK.

- 8 Select the sheet to be compared to the sheet currently shown on the canvas and click OK.

Once the comparison has been performed, the original DWF file sheet may show differences on the canvas that can be saved or printed. The differences are also shown in the Markups palette as “Additions from comparison...” and “Deletions from comparison...”. These comparison markups can be deleted if additional comparisons are required.

TIP As markups, the comparison results can be hidden or shown by clicking Home tab ► View panel ► Show Markups.

See also:

- [Markup Basics](#) on page 161
- [Markup 2D DWF Files](#) on page 179
- [Change Default Color Options](#) on page 276

Embed a DWF File in Other File Types

25

About Embedding DWF Files

Putting a DWF file in any program that uses [ActiveX](#) on page 299 controls, such as Buzzsaw, is referred to as embedding a DWF file.

When the embedded DWF file is active, the default DWF viewing program limits the amount of Design Review application window that is shown. Typically in embedded situations, the Design Review ribbon only shows the tab names. Clicking a tab name temporarily opens the ribbon so you can access the appropriate tools. Since embedded mode does not show the Quick Access toolbar, the tools typically found on the Quick Access toolbar are shown on the File panel on the Home tab.

TIP To save a copy of an embedded DWF file, right-click and select Save As.

Limitations of Embedded DWF Files

Some Design Review features are not available in embedded DWF files.

- You cannot add a digital signature.
- You cannot create a New file.
- You cannot access plug-ins.

To access these capabilities, open the embedded file in Design Review.

See also:

- [Contextual Tabs and Panels](#) on page 15

Embed a DWF File in Microsoft Word or PowerPoint Files

You and your customers must have Microsoft® Word or Microsoft® PowerPoint® 2007, and a copy Design Review installed to work with DWF files embedded in documents and presentations.

To embed a DWF file in a Microsoft Word document

- 1 Open the Word document to receive the DWF file.
- 2 In the open document, place the insertion point where you want to embed the DWF file.
- 3 Start Windows Explorer and locate and select the 2D or 3D DWF file you want to embed. If necessary, position the Windows Explorer window so you can see the location where you want to embed the DWF file.
- 4 From Windows Explorer, drag the DWF file over the location in the receiving document and drop the DWF file in place.
- 5 Optional: To resize the embedded object, drag a corner or side handle to the desired dimensions.

NOTE The embedded object can only be resized when inactive.

- 6 Optional: To interact with the embedded DWF file, double-click it. To exit the embedded DWF file, click outside the DWF file area.

To embed a DWF file in a PowerPoint presentation

- 1 Open the PowerPoint presentation to receive the DWF file.
- 2 In the open presentation, display the slide where you want to embed the DWF file.
- 3 Start Windows Explorer and locate and select the 2D or 3D DWF file you want to embed. If necessary, position the Windows Explorer window so you can see the location where you want to embed the DWF file.
- 4 From Windows Explorer, drag the DWF file over the location in the receiving slide and drop the DWF file in place.

WARNING In PowerPoint, dropping a DWF file on a text box creates a link to the DWF file rather than embed the file.

- 5 Optional: To resize the embedded object, drag a corner or side handle to the desired dimensions.

NOTE You can only resize the embedded object when it is inactive.

- 6 Optional: To interact with the embedded DWF file in Normal mode of PowerPoint, double-click it. To exit the embedded DWF file, click outside the DWF file area.

Interacting with an Embedded DWF in Slide Show Mode of PowerPoint

Embedding a DWF file in a PowerPoint slide using the drag and drop method is a good way to share and show a DWF file when giving a presentation. However, if you want to interact with the DWF file during a presentation, for instance, to change the view of a model or to add a markup, embed the DWF using a slightly different method.

WARNING Interacting with an embedded DWF file using PowerPoint 2007 may require you to modify PowerPoint ActiveX settings. Make this security modification at your own risk.

PowerPoint 2007: To interact with an embedded DWF file in Slide Show view

- 1 In PowerPoint 2007, open the PowerPoint presentation to receive the DWF file.
- 2 In the open presentation, display the slide where you want to embed the DWF file.
- 3 If necessary, display the Developer tab and verify ActiveX settings in PowerPoint 2007.
 - a Click the Microsoft® Office Button and select PowerPoint Options. The PowerPoint Options dialog box opens.
 - b On the Popular tab, select Show Developer Tab in the Ribbon.
 - c Click Trust Center and, under Microsoft Office PowerPoint Trust Center, click Trust Center Settings. The Trust Center dialog box opens.

Changing Design Review Options

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About the Options Dialog Box

To access settings that control how Design Review behaves and how a DWF file and its contents are displayed on the canvas, click the application button ► Options. The Options dialog box has several tabs.

General Tab (Options Dialog Box)

The General tab enables you to set common Design Review options.

View Settings

Canvas Color For each sheet, the color of the canvas is set according to how it was published, most commonly a gray canvas. Canvas color is used only for on-screen viewing. The canvas color does not print.

NOTE For sheets created by the DWF publisher as a [layer](#) on page 301 ready for printing, you may see a drop shadow upon opening the sheet regardless of whether or not the canvas is viewable. The canvas and paper color settings, however, will work.

Color Scheme Apply a Dark or Light color scheme to Design Review application window elements.

Automatic Palette Launching

Control how the palettes open based on selected content.

Launch Palette Automatically When Related Content Is Selected Check the desired palette name to show the palette if hidden when related content is selected.

Markup Settings

Use Markup Status Color Highlighting If statuses have been added to either a callout or custom symbol, those markups show the color unique to the set status. By default, markup status color highlighting is shown, but you may want to hide it for on-screen display or printing purposes.

File Notifications

Warn When Upgrading Earlier Versions of DWF When saving an older DWF file that contains a single sheet with 2D content, Design Review automatically attempts to upgrade it from the pre-6.0 DWF file format to the latest version. By default, before upgrading the file format, a dialog box opens to warn you that the upgrade is about to take place.

TIP To retain the original file in the older DWF file format, click No and save the updated DWF file to a new location or with a different name.

Warn When Viewing a Document with Restrictions When opening a DWF file with disabled content, a dialog box identifies the affected sheets and the type of restriction.

Notify after adding a new digital signature or opening a signed file After signing a DWFX file or after opening a digitally signed DWFX file, a dialog box shows the signature details.

File Settings

DWF Format Select the default file format, DWFX or DWF, used by Design Review when saving or importing files.

Zoom Tool

Control how the Zoom tool works using the mouse.

To Zoom in with Mouse Push Mouse Up to zoom in.

Pull Mouse Down to zoom in.

To Zoom in with the Mouse Wheel Roll Wheel Up to zoom in.

Roll Wheel Down to zoom in.

See also:

- [Markup Status](#) on page 30
- [Save DWF Files](#) on page 227
- [Change Default Color Options](#) on page 276

- [Use Palettes](#) on page 20
- [Restore Default Options](#) on page 277

Sheet Tab (Options Dialog Box)

The Sheet tab enables you to set Design Review options unique to 2D content.

Paper Settings

Paper Color When a 2D sheet is displayed on the canvas, the color of the paper is set according to how it was published, most commonly using a white paper. Paper color is used only for on-screen viewing. The paper color does not print.

Override Published Paper Colors Enables you to set Design Review to disregard published paper colors for 2D sheets.

Sheet Size Settings

Select a Paper Size Based on the User Locale Selected by default, this option uses the common paper size based on the computer Regional Options setting.

Select from the Following List Specify paper size settings from the drop-down list: Metric, Imperial, or All Paper Sizes. This setting takes precedence over of computer regional settings.

Object Highlighting

Enable Dynamic Highlighting Use to disable or enable dynamic highlighting for 2D sheets.

Dynamic Highlight Color Set the color of a 2D object when the mouse pointer is moved over it.

Selection Color Set the color of published 2D objects when selected. Markup objects are not affected by this setting.

Hyperlink Settings

Sheet Hyperlink Color Set the color of hyperlinks on 2D sheets.

Single Click to Follow Sheet Hyperlinks Set the behavior of hyperlinks on 2D sheets. By default, Design Review requires customers to Ctrl-click a hyperlink to display the linked content.

Show Sheet Hyperlink Tooltips Tooltips display the destination of a hyperlink connection and instructions for following it. This option controls whether or not hyperlink tooltips are shown.

See also:

- [Change Default Color Options](#) on page 276
- [Restore Default Options](#) on page 277

Model Tab (Options Dialog Box)


The Model tab enables you to set Design Review options unique to 3D content.

View Settings

Driver Control which graphics driver Design Review uses. Select from OpenGL, Software (OpenGL), or Direct3D. OpenGL and DirectX are hardware-dependent. Software (OpenGL) may be slower than the hardware-dependent options.

Fidelity Control whether or not to increase display performance or content fidelity.

Smooth Camera Transitions When switching from one view to another, or while viewing animations, Design Review can smooth the transition between views or between animation sequences.

TIP If you change views several times, you click the Previous View button  to step back through your views. With Smooth Camera Transitions enabled, you can create a movie walk through.

Color Settings

Model Edge Color Control edge colors for 3D objects. By default, edges display in the color in which they were published. The selected Model Edge Color setting is shown only when the Edges Only or Shaded with Edges is chosen from the Shading/Edges drop-down list on the View panel.

As Published Selected by default, this option is disabled if a custom model edge color is defined.

Gradient Background Color Control the canvas for 3D content. The canvas has a gradient effect: a smooth blending of colors from one to another. By default, the colors are dark to light gray.

Use Gradient Background Control whether or not the gradient background is shown for 3D content.

Object Highlighting

Enable Dynamic Highlighting Use to disable or enable dynamic highlighting for 3D sheets.

Dynamic Highlight Color Set the color of a 3D object when the mouse pointer is moved over it.

Selection Color Set the color of published 3D objects when selected. Markup objects are not affected by this setting.

Shadow Settings

Show Shadows Control whether or not shadows are shown.

TIP Shadows can also be enabled or disabled by clicking Home tab ► View panel

(expanded) ► Drop Shadows button. 

Offset from Model (%) Control the apparent distance between the shadows and the object casting the shadows by entering a value between zero and 100.

Light Direction Control the apparent direction from which shadows are cast.

See also:

- [View Shadows for 3D Objects](#) on page 98
- [Change Default Color Options](#) on page 276
- [Restore Default Options](#) on page 277

GPS Tab (Options Dialog Box)

The GPS tab enables you to configure and connect to the installed GPS device to work with Design Review. To configure GPS options, open a DWF file containing a georeferenced map and display the map on the canvas.

Connection

Automatically Scan All Ports for My GPS Device The computer detects the port used by the first GPS device. If multiple GPS devices are installed, use the manual option.

Manually Specify Connection Port for My GPS Device Select the port where the GPS device is installed from the Port drop-down list.

Select a Port Drop-down list of ports, ranging from COM1 to COM10. This option is only available when Manually Specify Connection Port for My GPS Device is enabled.

Set the GPS Refresh Interval Determine how often the GPS device polls the satellite for the current location. If the GPS device cannot update the map's

coordinates due to signal failure, the My Location icon displays a question mark, and map repositioning is suspended until a satellite signal is reacquired. Refresh interval options include 1, 5, 15, and 30 seconds, 1, 5, 15, 30 minutes, and 1 hour.

Status

Status Displays the current GPS device connection status. At first connection, the GPS Device Connection Status message box opens and displays a log of all status messages. This message box can be left open for continuous monitoring or closed. The status is always displayed on the GPS tab in the Options dialog box.

Use This Connection at Startup Checked by default, this option retains the current GPS device configuration for Design Review to use the next time a georeferenced map is displayed on the canvas. If no configuration is specified, this option is disabled.

Connect Uses the current GPS device configuration to enable the GPS device. Button changes to Disconnect once the GPS device is connected.

See also:

- [View Georeferenced Maps](#) on page 139
- [Restore Default Options](#) on page 277

SteeringWheels Tab (Options Dialog Box)

The SteeringWheels tab enables you to set the following options to fine tune the behavior of various SteeringWheel tools based on your preferences.

Big Wheel

Wheel Size Control the size of the Big Wheels.

Wheel Opacity Control the opacity of the Big Wheels.

Display

Display Heads-Up Messages Control whether or not SteeringWheel messages are shown.

Display Tool Tips Control whether or not SteeringWheel tooltips are shown.

Display the Pinned Wheel on Startup Control whether or not the SteeringWheel is shown when Design Review starts. This option only applies to the 3D wheels.

Look Tool

Invert Vertical Axis on Look Tool Inverts the direction the camera looks when you move the mouse.

Zoom Tool

Enable Single Click Incremental Zoom-In Enables Zoom tool for adjusting the zoom location.

Mini Wheel

Wheel Size Control the size of the Mini Wheels.

Wheel Opacity Control the opacity of the Mini Wheels.

Walk Tool

Constrain Walk Angle to Ground Plane Checked by default. Uncheck this option to remove the ground plane constraint.

Walking Speed Control the speed of the Walk tool.

Orbit Tool

Maintain the Up Direction in Orbit Tool Checked by default. This option forces the Orbit tool to honor the model's published up direction.

Enable Selection Sensitivity in Orbit Tool Checked by default. The view rotates around the selected part or parts.

See also:

- [Use the 2D Navigation Wheel](#) on page 66
- [Use the 3D SteeringWheels](#) on page 81
- [Restore Default Options](#) on page 277

ViewCube Tab (Options Dialog Box)

The ViewCube tab enables you to set the following options to fine tune the behavior of the ViewCube based on your preferences.

Show the ViewCube Checked by default. Control whether or not the ViewCube is shown.

Keep Scene Upright Checked by default. Uncheck this option to prevent the model from switching to a top-up view, set by the designer, when a ViewCube view is selected.

When Dragging on the ViewCube

Snap to Closest View Checked by default. Controls whether or not the view snaps to the closest available fixed view when you release the mouse button after dragging the ViewCube.

When Clicking on the ViewCube

Fit-to-View on View Change Checked by default. Zooms the view of the model or selected object when you click the ViewCube.

When unchecked, clicking or dragging the ViewCube rotates around the current center of rotation and does not zoom in or out.

Orient ViewCube to Current UCS Checked by default. The ViewCube is reoriented to the currently selected UCS, when one is active. When unchecked, or when no UCS is active, the ViewCube is oriented to the WCS.

When you create a UCS and make it active, a Coordinate System drop-down list is displayed below the ViewCube. From the list, you can quickly select a different coordinate system or access the Manage Coordinate Systems dialog box.

Display

On-Screen Position Position the ViewCube in any corner of the Canvas. By default it is displayed in the Top Right corner.

NOTE When you change the position of the ViewCube, the position of the Roll Arrows and Home button are also changed relative to the ViewCube.

Size Set the display size of the ViewCube on the Canvas. The default setting is Normal.

Inactive Opacity Set the ViewCube visibility when the mouse pointer is distant from the ViewCube. Move the mouse pointer near the ViewCube to make it fully opaque (visible). The default inactive opacity is 50%.

See also:

- [Use the ViewCube](#) on page 76
- [About Coordinate Systems](#) on page 216
- [Restore Default Options](#) on page 277

PDF Conversion Tab (Options Dialog Box)

The PDF Conversion tab enables you to set the conversion options when opening a PDF file in Design Review.

Resolution (Dots Per Inch) Higher resolution (larger dpi values) results in greater detail and larger DWF file size. Lower resolution (smaller dpi values) results in faster performance and smaller DWF file size.

Convert PDF files to Black & White DWF files when saving Saves a PDF file in black and white potentially reducing the resulting DWF file size.

See also:

- [About Saving an Open PDF as a DWF File](#) on page 227

DWG Viewing Tab (Options Dialog Box)

If Autodesk® AutoCAD® 2010 is installed, the DWG Viewing tab enables you to set the conversion options when opening a DWG file in Design Review.

NOTE The DWG Viewing tab options are not available in Design Review if DWG TrueView is installed.

Drawing's Paper Size When Printed List of available paper sizes for the open DWG file. The default setting is the size specified in the DWG file. If no setting was specified then the default is 8.5 inches x 11 inches.

Fit Drawing to This Size When selected, the drawing is scaled to fit the paper. When unselected, Design Review uses the drawing's scale (or the system default, if no scale was specified).

Drawing's Orientation on the Page Select the drawing orientation of the generated DWF file, As Published, Portrait or Landscape. As Published accounts for design files that may contain both portrait and landscape drawings.

Resolution (Dots Per Inch) Higher resolution (larger dpi values) results in greater detail and larger DWF file size. Lower resolution (smaller dpi values) results in faster performance and smaller DWF file size.

Model Type: 2D or 3D Select the method for determining DWG file content. Best Guess: Design Review programmatically determines whether or not the DWG file contains 2D or 3D information. If the model space of the DWG file is just a 2D drawing, Design Review imports the 3D model as a 2D sheet. If the model space in the DWG file is a real 3D model, Design Review imports the file as a 3D model. 2D: Forces DWG file conversion to a 2D sheet. 3D: Forces DWG file conversion to a 3D model.

Expose DWG Layers When selected, DWG layer information is included in the DWF file.

WARNING For password-protected DWG files, layer information is not included.

Change Default Color Options

Design Review enables you to set the default colors of many things in the program.

Location	Color-Related Commands
General Tab (Options dialog box)	Canvas Color
Sheet Tab (Options dialog box)	Paper Color, Dynamic Highlight Color, Selection Color, and Sheet Hyperlink Color
Model Tab (Options dialog box)	Model Edge Color, Gradient Background Color, Dynamic Highlight Color, and Selection Color
Compare Options dialog box	Additions and Deletions

The way to change the colors is similar in each case.

To apply a pre-defined color

- 1 If necessary, display the Options dialog box and tab of the desired color-related command.
- 2 Click the command color button. The Color dialog box opens.
- 3 Under Basic Colors, click the swatch of the desired color.
- 4 To confirm the color change, click OK.
- 5 To apply the new pre-defined color, click OK.



To create a custom color

- 1 If necessary, display the Options dialog box and tab of the desired color-related command.

- 2 Click the command color button. The Color dialog box opens.
- 3 Under Custom Colors, click Define Custom Colors. The Color dialog box expands.

NOTE You can define a custom color by entering its specific Hue, Saturation, and Luminescence values or Red, Green, or Blue values in the Color dialog box.

- 4 From the existing color swatches, select the standard color that is closest to the custom color you would like to create.

- 5 To get the exact color, drag the color selection icon  and then the saturation selection triangle.  The custom color is shown in the Color box.

- 6 When satisfied with the custom color, click Add to Custom Colors. The custom color remains available in the Color dialog box for future use.
- 7 To confirm the color change, click OK.
- 8 To apply the new custom color, click OK.

Restore Default Options

Restoring Design Review's default options resets all customizations, including re-displaying dialog boxes you have chosen not to show again.

NOTE Restoring the default options from the Options dialog box does not change the default Compare markup colors for additions and deletions.

To restore the original settings

- 1 Click the application button ► Options.
The Options dialog box opens.
- 2 On any tab in the Options dialog box, click Restore Defaults.
A dialog box opens, warning that any saved settings will be lost.
- 3 Click Yes to continue.

- 4 To close the Options dialog box, click OK.

Programming Options for Design Review

Design Review enables you to extend its functionality with an [API](#) on page 299. You can also customize your own applications to allow them to read and write DWF files with the Toolkit.

Use APIs to Extend Design Review Functionality

The application programming interface (API) was originally created for the previous viewing program, Autodesk DWF Viewer, so it emphasizes viewing, plotting, and user interface customization capabilities.

The API enables you to navigate to a specific page or view, set layer visibility, and control the user interface.

You must understand programming and [ActiveX](#) on page 299 technology in order to use the API. You can program in these languages:

- Visual Basic® 6.0
- Visual Basic® .NET
- Visual C#®
- Visual C++®
- JavaScript

This API can be applied whether or not Design Review is standalone or embedded in other software. You can read more about the API and get sample code at the Developer Center (<http://www.autodesk.com/dwf-developers>).

DWF Toolkit

Give your own applications the ability to read and write DWF files using the DWF Toolkit (<http://www.autodesk.com/dwftoolkit>).

See also:

- [Learning Resources](#) on page 292

Check for Design Review Updates

Design Review is updated regularly. When an update is available, you are prompted automatically to update the product. You have the option to be reminded later.

To check for updates manually

- Click Home tab ► Assistance panel ► Help drop-down ► Check for Updates.

The Autodesk Design Review Information dialog box opens.

A message either indicates you already have the latest version installed, or that new Autodesk Design Review product information is available.

To see which version you have installed

- Click Home tab ► Assistance panel ► Help drop-down ► About Autodesk Design Review.

Disable Prompts for Automatic Updates

Based on your network policies, you may want to disable the automatic update prompt shown when starting Design Review. You can still check for updates manually from the Help drop-down.

To disable prompts for automatic updates

- 1 Click Home tab ► Assistance panel ► Help drop-down ► Check for Updates.

The Autodesk Design Review Information dialog box opens.

- 2 Click Don't Show This Again.

Alternative Methods for Performing Commands

Design Review often provides several ways to perform the same command:

- Application menu button, ribbon tabs, palettes, and toolbars
- Keyboard shortcuts
- Right-click menus







The application menu button, ribbon tabs, palettes, and toolbars are used most often to invoke a command. You can also use a keyboard shortcut (a key or combination of keys you can press to perform a command quickly). When available, keyboard shortcuts are shown to the right of their respective tool names in menus and tooltips.

NOTE Keyboard shortcuts are different than keytips. Keyboard shortcuts provide a direct way to perform a command immediately.



Another alternative to invoke a command is to use the right-click menu. In many locations within Design Review, you can right-click to display commands relevant to the position of the mouse pointer. This right-click ability is especially





important when viewing a DWF file in embedded mode, as menus and toolbars can be hidden.

Application Menu






Icon	Command	Keyboard Shortcut
	New	Ctrl+N
	Open/Open File	Ctrl+O
	Save	Ctrl+S
	Print	Ctrl+P
	Send Email	Ctrl+E
	Close	Ctrl+W
	Exit Design Review	Alt+F4







Quick Access Toolbar











Icon	Command	Keyboard Shortcut
	Open	Ctrl+O
	Save	Ctrl+S









Icon	Command	Keyboard Shortcut
	Print	Ctrl+P
	Undo	Ctrl+Z
	Redo	Ctrl+Y
	Send Email	Ctrl+E









Ribbon: Home Tab

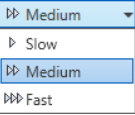
Icon	Command	Keyboard Shortcut
	Print	Ctrl+P
	Undo	Ctrl+Z
	Redo	Ctrl+Y
	Full Screen	N
	Copy Current View	Ctrl+Shift+C
	Show Markups	Ctrl+Shift+M

Icon	Command	Keyboard Shortcut
	Previous View	Ctrl+Shift+P
	Next View	Ctrl+Shift+N
	Starting View	Ctrl+Home
	Drop Shadows	Ctrl+Shift+S
	Coordinate Systems	Ctrl+U
	Show ViewCube	Ctrl+Shift+O
	Show Hyperlinks	Ctrl+Shift+H
	Show Canvas Background	Ctrl+Shift+B
	Snap to Geometry	Ctrl+Shift+G
	Find Palette	Ctrl+F
	Help	F1
Ribbon: Markup & Measure Tab		
Icon	Command	Keyboard Shortcut
	Cut	Ctrl+X

Icon	Command	Keyboard Shortcut
	Copy	Ctrl+C
	Paste	Ctrl+V
	(Enable Last Used Callout Tool)	M
	Freehand	S
	Text Box	T
	Length	G
	Point Location	L
	Relative Distance	I
	Length/Radius	J
	Angle	K
	Stamps	O











Icon	Command	Keyboard Shortcut
	Symbols	Z
Ribbon: Tools Tab		
Icon	Command	Keyboard Shortcut
	Rotate Sheet Right	Ctrl+Shift+1
	Rotate Sheet Left	Ctrl+Shift+2
	Move and Rotate	Ctrl+Shift+R
	Section Face	Ctrl+Shift+E
	XY Section	Ctrl+Shift+X
	XZ Section	Ctrl+Shift+Z
	YZ Section	Ctrl+Shift+Y

Icon	Command	Keyboard Shortcut
	From Snapshot	P
Ribbon: Animation Tab		
Icon	Command	Keyboard Shortcut
	Play	Z
	Pause	Z
	Reverse	W
	Next Interval	Ctrl+Shift+Right Arrow
	Previous Interval	Ctrl+Shift+Left Arrow
	Next Sequence	Ctrl+Right Arrow
	Previous Sequence	Ctrl+Left Arrow

Icon	Command	Keyboard Shortcut
	Speed	Ctrl+Shift+Plus/Minus

Canvas Toolbar

Icon	Command	Keyboard Shortcut
	Select	A
	Home	Home
	Pan	H
	Zoom	Q (Dynamic Zoom) Ctrl+Plus/Minus keys (Controlled Zoom)
	Fit to Window	F
	Zoom Rectangle	R
	Orbit	B
	Turntable	E
	2D Navigation Wheel	Ctrl+Shift+W

Icon	Command	Keyboard Shortcut
	View Object Wheel	Ctrl+Shift+I
	Tour Building Wheel	Ctrl+Shift+J
	Full Navigation Wheel	Ctrl+Shift+K
	Mini View Object Wheel	Ctrl+Shift+.
	Mini Tour Building Wheel	Ctrl+Shift+,
	Mini Full Navigation Wheel	Ctrl+Shift+/-
	Previous Page	PgDn
	Next Page	PgUp
Georeference Toolbar		
Icon	Command	Keyboard Shortcut
	Turn on GPS Mode	Ctrl+J
	Center to Coordinates	Ctrl+Shift+J

Icon	Command	Keyboard Shortcut
	Copy Coordinates from Map Toolbar	Ctrl+Shift+D
	Copy Coordinates from the Canvas*	Ctrl+K
	Paste Coordinates	Ctrl+L

*Available when right-clicking the canvas.

See also:

- [Tour Design Review](#) on page 9

Use the Arrow Keys to Move and Rotate

When you pull apart or cross section 3D models, you can use the arrow keys to move one or more selected objects or a section plane.

Use Arrow Keys to Move and Rotate a 3D Model

Plane	Axis	Arrow Key and Direction
XY	X	Up Arrow. Away from the origin. Down Arrow. Towards the origin.
	Y	Left Arrow. Away from the origin. Right Arrow. Towards the origin.
XZ	X	Up Arrow. Away from the origin. Down Arrow. Towards the origin.

Plane	Axis	Arrow Key and Direction
	Z	Left Arrow. Away from the origin. Right Arrow. Towards the origin.
YZ	Y	Up Arrow. Away from the origin. Down Arrow. Towards the origin.
	Z	Left Arrow. Away from the origin. Right Arrow. Towards the origin.

Move an object or section plane along an axis

- 1 Click the X, Y, or Z axis near the origin.
- 2 Use the up or down arrow keys to move the object.
 - Up Arrow. Away from the origin.
 - Down Arrow. Towards the origin.

Rotate an object or section plane

- 1 Click the X, Y, or Z axis at the end away from the origin.
- 2 Use the up or down arrow keys to rotate objects or section planes in one-degree increments. Press the Down Arrow to rotate clockwise and the Up Arrow to rotate counterclockwise.
 - Up Arrow. Rotate counterclockwise.
 - Down Arrow. Rotate clockwise.

TIP Press and hold Shift while using the arrow keys to rotate, the object rotates in 45° increments.

See also:

- [Move and Rotate 3D Objects](#) on page 103
- [Move and Rotate Section Planes](#) on page 113

Learning Resources

For more information about Design Review, the DWF file format, and DWF-related products, explore these learning resources.

Design Review Support

- Design Review Product Center: <http://www.autodesk.com/designreview>
- Design Review Learning Path:
<http://www.autodesk.com/designreview-learningpath>
- Design Review discussion group:
<http://www.autodesk.com/discussiongroup-designreview>
- Design Review Support Knowledge Base:
<http://www.autodesk.com/designreview-support>
- Design Review online demonstration:
<http://www.autodesk.com/designreview-tutorial>
- Design Review plug-ins: <http://www.autodesk.com/dwf-plugins>
- Autodesk® Freewheel® plug-in: <http://labs.autodesk.com/utilities/ShareNow/>

Other DWF-Related Resources

- Autodesk products capable of publishing DWF files:
<http://www.autodesk.com/dwf-publishing>
- Beyond the Paper blog: <http://dwf.blogs.com>
- DWF Community: <http://dwfcommunity.autodesk.com/>
- DWF Developer Center: <http://www.autodesk.com/dwf-developers>
- DWF Toolkit: <http://www.autodesk.com/dwftoolkit>
- DWF discussion group: <http://www.autodesk.com/discussiongroup-dwf>
- DWF FAQ: http://dwf.blogs.com/articles/DWF_FAQ.htm

- DWF file gallery to help you explore Design Review:
<http://www.autodesk.com/dwf-samples>

Autodesk Products

- Autodesk® Buzzsaw®: <http://www.autodesk.com/buzzsaw>
- Autodesk® DWF™ Writer: <http://www.autodesk.com/dwfwriter>
- Autodesk® Seek: <http://seek.autodesk.com>
- DWG TrueView™: <http://www.autodesk.com/dwgtrueview>

TIP Click Home tab ► Assistance panel ► Related Products to explore other products related to Design Review.

Non-Autodesk Websites

- 3Dconnexion: <http://www.3dconnexion.com>
- Autodesk User Group International: <http://www.augi.com>
- HP Instant Printing® (HPIP): <http://www.hp.com/go/hp-instant-printing/>
- Microsoft XPS Viewer: <http://www.microsoft.com/whdc/xps/viewxps.mspx>

System Requirements

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- Microsoft® Windows Vista™ SP1, Windows XP Professional or Home Edition SP2, Tablet PC running Windows Vista SP1 or XP SP2
- Microsoft® Internet Explorer® 6 SP2 or later
- Microsoft® .NET 3.5 SP1 Framework
- 800 MHz 32-bit (x86) or 64-bit (x64) processor (faster processor recommended)
- 512 MB RAM (for Windows Vista users, 1 GB RAM or more recommended)
- 150 MB free disk space for installation (supporting components including .NET and DirectX may require more than 1 GB free disk space)
- 1024 x 768 VGA
- Mouse, trackball, or compatible pointing device
- Optional Software and Hardware:
 - Citrix XenApp™ 4.5 (32-bit) on Windows Server® 2003 with Windows Vista or XP clients
 - 3Dconnexion SpaceTraveler™ support for 2D and 3D navigation
 - GPS device set to communicate using NMEA 0183 standards, the standard 4800-baud-rate, and a COM Port (COM1 to COM10).
 - GPS device bundled with Microsoft® Streets and Trips 2006
 - Panasonic Toughbook® with integrated GPS device
 - USB connected GPS device
 - Bluetooth® connected GPS device set to use a COM port

NOTE You can also view and print DWFx files with Microsoft® XPS Viewer. See <http://www.microsoft.com/whdc/xps/viewxps.mspx> for more details.

See also:

- [Uninstall Design Review](#) on page 297
- [GPS Tab \(Options Dialog Box\)](#) on page 271

Uninstall Design Review

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To uninstall Design Review

- 1 Click Start ► Control Panel.
- 2 Click Add or Remove Programs.

NOTE For Windows Vista, click Uninstall a Program.

- 3 From the list of programs, select Autodesk Design Review 2010.
- 4 Click Change/Remove.
The Add or Remove Programs message box opens.

NOTE For Windows Vista, click Uninstall/Change.

- 5 Follow the prompts to finish uninstalling the program.

NOTE After uninstalling Design Review, restart your computer.

Design Review does not uninstall customizations stored in your user profile in case you want to reinstall the product. To delete the customizations from Windows XP, delete the \Documents and Settings\\Local Settings\Application Data\Autodesk\Autodesk Design Review folder. From Windows Vista, delete the Users\\AppData\Local\Autodesk\Autodesk Design Review folder.

Glossary

ActiveX A Microsoft® technology that allows programs to run within other software. The software that holds the program, such as Internet Explorer® or Microsoft® Word, is called the container. The program that runs inside it, such as Design Review, is called the control.

API Application Programming Interface. A programming language used to enable applications to communicate with each other.

application button The button that is displayed in the top-left corner of the application. If you click the application button, the application menu is displayed.

application menu The menu that is displayed when you click the application button. The application menu contains common tools for creating, saving, and publishing a file.

assembly An object in a 3D model. An assembly can be made up of smaller objects called subassemblies or subobjects.

block A meaningful set of geometric shapes. Also known as an object or assembly.

BOM Bill Of Materials. A hierarchical list, like a parts list. A BOM describes a product in terms of its component parts.

BPJ Batch Print Job. A file that stores saved batch print settings for several DWF files.

CAD Computer Aided Design. The process of using a computer program to design drawings and models of physical objects.

canvas The primary viewing and markup area for a sheet or model.

cap A cap is the flat surface displayed after using the Cross Section tool. Disabling caps allows you to see parts as if they are hollow.

command prompt In a command-line interface, the command prompt is an indicator that shows the computer is ready to receive a command.

coordinate system A coordinate system is a method used to indicate the position of 3D content in dimensional space.

cross section A section made by cutting a model at an angle, usually to display an interior view.

datum A mapped reference point from which GPS measurements can be made. Each datum includes both an ellipsoid, which specifies the size and shape of the earth, and a base point for latitude and longitude. If two maps use different datums, points on the map may not line up.

digital signature A method used to maintain file authenticity and to provide a safe environment for sending and receiving data.

Direct3D A method used to improve rendering 3D graphics.

dpi Dots Per Inch. A method of measuring image or text resolution.

DWF

An open, published, and secure file format developed by Autodesk, DWF enables you to combine and publish rich 2D- and 3D-design data and share it with others.

DWFX

A version of DWF based on the XML Paper Specification (XPS) from Microsoft. DWFX enables DWF files to be viewed using the free Microsoft XPS Viewer. Generically referred to as DWF.

DWG DWG refers to the file extension (.dwg) of an AutoCAD file.

DXF Drawing EXchange Format. A file format that enables the exchange of drawings between AutoCAD and other programs. DXF is a predecessor of DWF. Also known as "Drawing Interchange Format."

expanded panel

An area on the ribbon associated with a ribbon panel. An expanded panel contains additional tools and controls. *See also* ribbon panel *and* ribbon.

FEA Finite Element Analysis. A way to use colors to identify stresses, displacements, heat transfer, fluid dynamics, or electromagnetism in mechanical objects as defined by the DWF file publisher.

FTP File Transfer Protocol. A method of moving files (larger than 10 megabytes) from one location to another over the Internet.

georeferenced map A 2D sheet within a DWF file published by Autodesk® Map 3D 2008 or later that contains a global coordinate system and defined latitude and longitude coordinates based on the WGS84 datum.

GPS Global Positioning System. A satellite navigation system that can locate the latitude and longitude of a GPS device on Earth.

gradient A color fill or pattern that uses a smooth transition between darker shades and lighter tints of one or two colors.

handle A small circle that displays when you select a markup object. Each object has several handles. Handles are used to resize the markup. All markups have handles except for freehand shapes.

History A section in the Markup Properties palette, History shows note and status changes saved in all markups.

hyperlink A way to associate graphical objects with related documents, such as other drawings, bills of materials, or project schedules.

intranet A company-specific network used to share information between co-workers.

iPart A part with variations that have been published and are embedded in a DWF file.

layer Published by the author of a DWF file, a layer is a way to group similar information in a drawing by function and to enforce line type, color, and other standards. Layers are the primary organizational tool used in drawing. Layers are the equivalent of the overlays used in paper-based drafting.

MAPI Messaging Application Programming Interface. The Microsoft® Windows® messaging system that allows various email applications to send and receive email.

model A meaningful collection of 3D objects. Also a generic way to refer to 3D content.

My Views A list of views created and saved in Design Review. My Views is shown in the Views palette.

named view A view created and named in Autodesk products. Each named view is shown in the Views palette.

NMEA 0183 An electrical and data transmission standard used by GPS devices defined by the National Marine Electronics Association.

Notes A section in the Markup Properties palette that can be used to add a note to a markup.

object Generically, any item on the canvas, Markups palette, or Model palette. Objects created in Design Review are called markup objects. Objects created in the DWF publishing program are called published objects. An object in a 3D model is sometimes called an assembly or part.

OpenGL A method used to improve rendering of 2D and 3D graphics.

orthographic view A view of a 3D model in which all lines on each axis are parallel to each other.

palette A group of related tools that enable you to find and display sheets, their markups, layers, views, and properties.

PDF Portable Document Format. A file format created by Adobe used to transmit and display documents regardless of the software of the sender or receiver. It includes fonts, formatting, and graphics.

perspective view In order to give the illusion of depth, a view of a 3D model where parallel lines appear to converge toward a vanishing point.

point A unit of measure used to determine text height or line width. One point equals 1/72nd of an inch.

properties Attributes of a sheet, markup, or object displayed in the applicable Properties palette. These properties may include the author name, time of creation, and, for markups, their Status and Notes.

push pin A push pin-shaped button used on the ribbon and in the application menu. On the ribbon, push pins are used to keep a ribbon panel expanded. In the application menu, push pins keep an item in the list of recently opened items.

raster image A type of graphic file, such as a BMP file, made up of individual pixels.

resolution The degree of sharpness with which an image is displayed. Images are composed of points called pixels. The greater the number of pixels, the better the resolution. Too many pixels can create large files, which may transfer slowly over the Internet and may perform sluggishly when viewed.

ribbon The horizontal area of the application window that contains task-based tabs and panels with tools for viewing, marking up, and sharing DWF files.

ribbon panel

A labeled control in the ribbon. Ribbon panels contain buttons or other controls. Multiple ribbon panels make a ribbon tab.

ribbon tab

The most general control on the ribbon. Ribbon tabs contain ribbon panels, which contain buttons or other controls.

snap A point on an object that acts like a magnet, allowing you to attach one object to another at a precise point.

status A way to indicate the current condition of a markup or sheet. Markup status is indicated in the Markup Properties palette. Each sheet may have custom stamps applied to indicate its status.

toolbar A row of icons that represent related tools. Each icon, when clicked, invokes an action.

tracking menu A cluster of graphical buttons, called wedges, which follows the mouse pointer as you move it around the canvas, tracking it.

trails Lines in a DWF file animation that show the relationship of a component to the assembly. In an animation, trails indicate the distance and the path along which a component was moved to create the view.

twip TWentyleth of a Point. A unit of measure, a twip equals 1/1440th of an inch.

UCS User Coordinate System. A user-defined coordinate system enables you to set up a point of reference for a particular set of point location measurements.

UNC Universal Naming Convention. A standard for identifying servers, printers, and other resources in a network. A UNC path uses double slashes to represent the drive and directories in which the server can be found. The disk and directories are separated with a single slash or backslash, as follows:

Unix: //servername/path

DOS and Windows: \\servername\path

vector image A type of graphic file made up of individual objects, such as lines and shapes. Vector images retain a high quality at any scale.

viewport A window area on a layout sheet that reveals various views of the same drawing.

WCS World Coordinate System. A coordinate system used as the basis for defining all objects and other coordinate systems. In Design Review, Y is up. In AutoCAD and Inventor, Z is up.

wedge A clickable button on a wheel.

workspace A set of various views of a drawing combined onto a sheet, originally for printing. In AutoCAD products, each layout sheet (sometimes

referred to as “paper space” or paper mode) has a defined paper size, orientation, and other page settings.

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