# 3D-Tool V14 Quick Reference: 3D-Mode

www.3D-Tool.com

## The Ribbon Menu in 3D-Mode

Open/Export files

Help

Hide menu

File 3D-Mode 2D-Mode Options

3D / 2D — Mode
Zoom All — Zoom
Display
Align — Orientation
Cross Section / Measure Markup / Explode / Painter — Tools
Placement / Tooling Analysis / Model Info — Toolbox
Animation / Full Screen / Custom View Show / Play Animation — Presentation
Copy Model Tree / Delete Parts / More — Model Tree

| Switch between 3D and 2D | Zoom in and out of the model in the display | Change render mode and display settings | Change the orientation of the model in the display | Cross Section, Measure/Markup, Painter and Explode Tool | Toolbox for Placement Analyses, Model Compare and Repair | Create, play animations and present in full screen mode | Commands and functions for the models, assemblies and parts on the Model Tree |

3D-Tool

File 3D-Mode 2D-Mode Options

### The Quick Access Toolbar

- Open file
- Close scene
- Save
- Publish Viewer (*.exe)
- Publish 3D-PDF file (*.pdf)
- Print
- Create PNG Picture (*.png)
- Capture to Clipboard

### The Model Tree

Hide and show assemblies and parts and select them for further actions.

- Active model / inactive
- Filtered model / inactive
- Expand assembly / collapse
- Shown assembly / hidden
- Shown part / hidden

Sample Fan_3D-2D
- 410_Housing
- 611_Motor_ASM
- 611_Spacer
- 611_Bearing:1
- 611_Bearing:2
- 812_Blade_ASM
- 812_Label
- 812_Decal
- Case Draft

Hide and show the info panel

Change width

### Change Selected Parts

Hide/Show the parts and assemblies selected in the Model Tree and change their display mode.

- Show Parts
- Hide Parts
- Show Selection Only
- Undo Show/Hide
- Search in Model Tree
- Filter Model Tree
- Select in Model Tree
- Change Color of Parts
- Shaded Parts
- Shaded Parts with Edges
- Wire Frame Parts
- Reset Part Display
- Part Transparency On
- Part Transparency Off

### Mouse Actions

| Rotate | Move | Zoom | Context menu | Select Partsl + Selection in tools | Multi-Select |

### Touch Gestures

| Rotate | Move | Zoom | Context menu | 2x Select Part |

### 3D Mouse

Button function: Fit View

### Custom Views

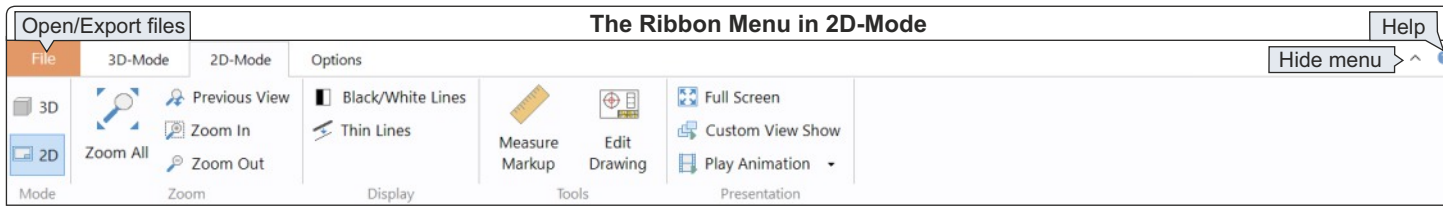Save the position and orientation of the model along with all display settings.

- Master View (Show all)
- < Previous Custom View
- > Next Custom View
- Save Custom View
- Previous view

Custom Views

Lighting / Background
Default
White
Normal

### Lighting / Background

Change the lighting direction to improve the contrasts.

Switch the color of the background between *White* and *Normal*.

80.000
FAN

## Cross Section

Move the section in small steps
Move the section in big steps
Enter position
Move the section in small steps
Move the section in big steps
Enter angle
Select the side to be shown
Close

XZ-plane

<< < 0.000 > >> Angle x: 0.000

Angle z: 0.000

Side 1
Side 2
Section

Select the section plane
Pick position/orientation on the model
Move the section position
Rotate the section plane
Show only the section
Cross Section options

**Cross section options**

- Show all parts sectioned
- Export cross section as DXF
- ✓ Show cross section controls
- ✓ Fill section
- ✓ Section line

\* To display a part uncut right-click the part and choose ✏ **Cross section on/off.**

## Measure / Markup

Add dimensions, markups, and pictures.

Measure and Markup

**Measure distance/angle**

Reference selection filter

| Plane | Edge | Vertex | Circle |

| Point | Circle |

Decimal 0.XXX
Text size 14

<< Select Annotation >>

↔ Distance/Angle
↔ Distance only
Distance in x-direction
Distance in y-direction
Distance in z-direction

Dist./Angle to xy-plane
Dist./Angle to xz-plane
Dist./Angle to yz-plane

Edge length
Box
Minimal box
Wall thickness
Clearance

Radius
Diameter

Edge point
Point on surface
Center of a circle

Note
Model info note
Part info note
Cross section info note
Surface info note

Background image/text

Radius: 1.50
New Radius
Info text

Distance: 4.00
Pre-selected reference
Selected dimension

## Painter

Change the color of models, parts, and planes.

Painter

Auto color

Models

Parts | Surfaces

○ One model ○ All models

Manual color

Color

Single object select

Marquee select

=> ✓ ✗

**Manual color**

- Pick color from the palette
- Pick color from the model

Directly coloring by single selection

- Surfaces, curves, and PMI
- Single triangles
- Plane surface
- Connected triangles
- Of same color

Coloring by marquee selection

- Triangles
- Curves
- PMI
- ✓ Color selection
- ✗ Reset selection

**Auto color**

Models — Assign different colors to all models.

Parts — Assign different colors to all parts.

Surfaces — Assign different colors to all surfaces.

## Explode

Create an exploded view of the model.

Assembly Explode

Move direction

☑ X ☑ Y ☑ Z

0.00 | 0.00 | 0.00
x | y | z
Move

Assembly Explode

Auto explode all

Explode assembly

X Y Z

Include subassemblies

Move/Reset selection

-X +X -Y +Y -Z +Z

To center | To origin

**Manual explosion**

Selection mode
Select parts in the 3D-View or in the Model Tree

Move parts
Rotate parts
Copy position from another part
Reset position

**Auto explosion**

Auto explode all or selected assembly only

X Y Z — Explode selected assembly in X,Y, or Z - direction

-X +X -Y +Y -Z +Z — Move parts outside parent assembly

Reset parts to common explosion center or to original position

# 3D-Tool V15 Quick Reference: 2D-Mode

## The Ribbon Menu in 2D-Mode

Open/Export files

Help

Hide menu

| Mode | Zoom | Display | Tools | Presentation |
|---|---|---|---|---|
| File · 3D-Mode · 2D-Mode · Options | | | | |
| 3D · 2D | Zoom All · Previous View · Zoom In · Zoom Out | Black/White Lines · Thin Lines | Measure Markup · Edit Drawing | Full Screen · Custom View Show · Play Animation |

- **Switch between 3D and 2D**
- **Zoom in on and out of the drawing in the display**
- **Change the display of line**
- **Add dimensions and markups and edit elements of the drawing**
- **Play animations and present in full screen mode**

## The Quick Access Toolbar

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## Mouse Actions

- **Move**
- **Zoom**
- **Select** in 2D tools

## Touch Gestures

- **Move**
- **Zoom**
- **Select** in 2D tools

## 3D Mouse

- **Button function:** Fit view

## Layer Functions

- Hide/Show layer
- Show all layers
- Hide all layers

Hide and show the info panel

Change width

## Custom Views

Save the position and zoom of the drawing along with all display settings.

- Master View (Show all)
- < Previous Custom View
- > Next Custom View
- Save Custom View
- Previous view

## Tools

### Measure

Measure Markup

- Distance Angle
- Distance
- X-Distance
- Y-Distance
- Line length
- Radius
- Diameter
- Angle
- Angle by 4 points

### Markup

- Arrow
- Sketch
- Circle
- Rectangle
- Oval
- Cloud
- Add text
- Add picture

### Edit Drawing

Edit Drawing

- Delete the selected elements
- Change the color of the selected elements
- Move the selected elements
- Scale the selected elements
- Change text element

## Layer Functions

Hide and show layers.

- 3D-Tool dimensions
- 3D-Tool redlining
- Shown layer / Hidden layer

## Background

Change the background of the 2D-drawing. Black color, *White color* or *Custom color*.

To choose the custom color click the button.

# 3D-Tool V15 Quick Reference: 3D-NativeCAD Converter

## Supported 3D-Conversions

CATIA, Pro/E, Creo, Inventor, SolidWorks, SolidEdge
UG/Siemens NX, X_T, X_B, JT, Rhino
STEP, IGES, VDA, SAT, DWG, DXF

⬇

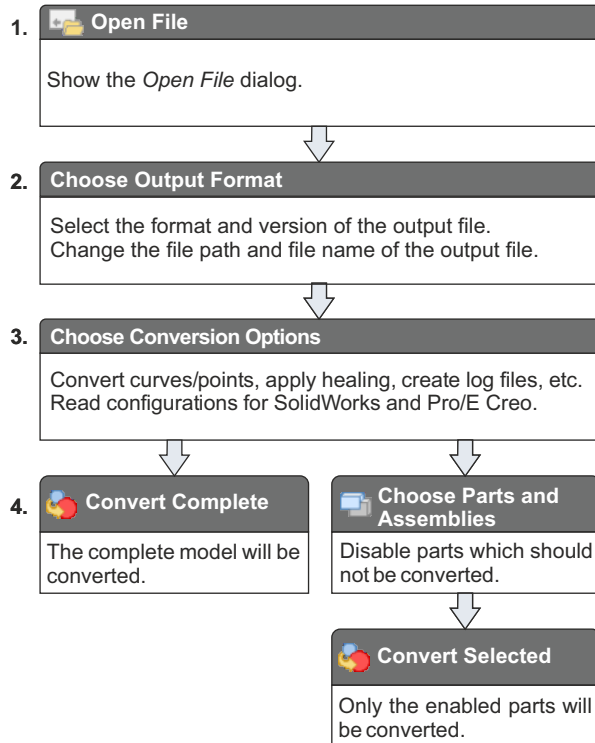CATIA V4/V5, X_T, STEP, IGES, VDA, SAT, SAB, STL

## Model Tree Functions

Functions that apply to all assemblies and parts on the Model Tree.

⊞ Expand all assemblies

⊟ Collapse all assemblies

🐛 Enable all parts

❌ Disable all parts

## The Model Tree

Disable and enable assemblies and parts by clicking on their icons:

🗂 Enabled assembly

🗂 Disabled assembly

📦 Enabled part

📦 Disabled part

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**1.** **Open File**

Show the *Open File* dialog.

**2.** **Choose Output Format**

Select the format and version of the output file.
Change the file path and file name of the output file.

**3.** **Choose Conversion Options**

Convert curves/points, apply healing, create log files, etc.
Read configurations for SolidWorks and Pro/E Creo.

**4.** **Convert Complete**

The complete model will be converted.

**Choose Parts and Assemblies**

Disable parts which should not be converted.

**Convert Selected**

Only the enabled parts will be converted.

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### 3D-NativeCAD Converter

Options   Help

Convert CAD part or assembly to a CATIA V5-6R2012 file

**File to convert:**
C:\3D-Tool\oem-825-8888_K0002.stp

*Open file*

*File path and file name of the output file*

**Output file:**
C:\3D-Tool\oem-825-8888_K0002.CATProduct

*Output format*

**Format:** CATIA V5

**Format specific options:**
☑ CATIAV5: Use Hybrid Bodies

*Output version for CATIA V5, SAT, SAB und X_T*

**Version:** V5-6R2012

Options

Output units
◉ mm
○ inch

☐ Convert hidden entities
☑ Healing
☑ Create log file

☑ Convert curves
☑ Convert points

Configurations/Simplified Rep.
Only for SolidWorks + Pro/E Creo

📋 Read Configurations

*Conversion options*

*Read configurations and simplified representatons*

*Convert Complete*

*Choose Parts and Assemblies*

*Convert all assemblies and parts of the file*

*Read the assembly structure and choose parts and assemblies which should be converted*

Select parts which should be converted

*Cancel the selection*

- oem-825-8888_K0002
  - oem-825-8888_K0002
    - 421_3074_03
      - 418_3008_03
      - 422_4016_01
      - 418_3009_06
    - 8888_50030
      - 401_4231_08
      - 419_3067_03
      - 304_4028_05
      - 104_4122_03
      - 1516_45399
    - 8888_50029
      - 401_4231_08
      - 304_4027_05
      - 1516_45429
      - 104_4122_03
      - 419_3070_05
    - 411_4072_07
      - 304_4029_01
      - 304_4031_01
      - 411_4061_18
    - 421_3060_10

*Convert the enabled parts and assemblies*

*Convert Selected*

# 3D-Tool V15 Quick Reference: Tips

## Mouse Button, Touch Gestures, 3D-Mouses



Use the left **mouse button** to rotate and the right mouse button to move the view. Use the **mouse wheel** to zoom in and out. 3D-Tool also supports 3Dconnexion **3D-mouses** and t**ouch gestures**.

## Setting Program Style



Use the Setting **Program Style** to select one of the 5 color styles for the 3D-Tool program interface. For the Free Viewer and 3D-Tool EXE files only the Windows10 Style is available.

## Activating the Hardware Acceleration



Optimize the 3D-performance by activating the **Hardware Acceleration** and the OpenGL3.3 support in the 3D-Tool Preferences.
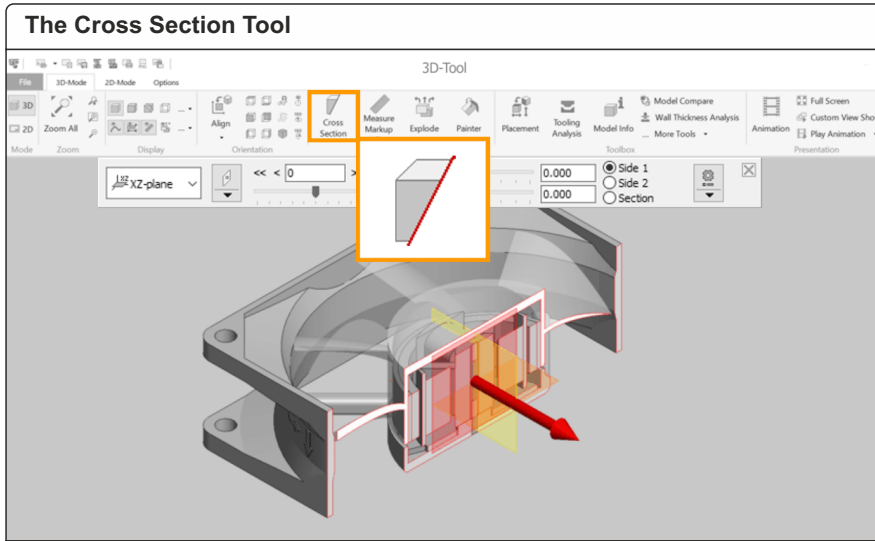
## Import Quality Settings



For a smooth display of big models Advanced and Premium users can reduce the **import quality**. Additionally, the Premium version allows a fast import of graphical CAD data from native CAD models.

## 2D - Mode
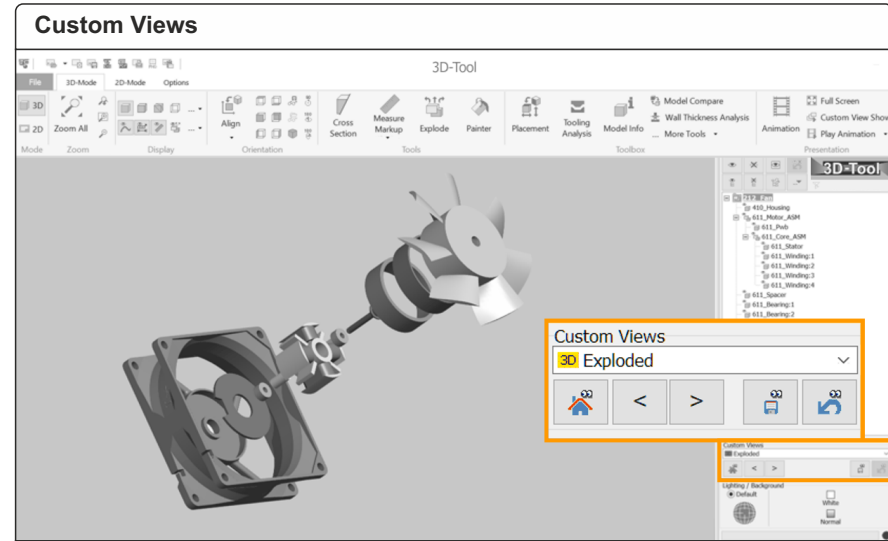


IIn **2D-mode** use the Measure Markup tool to add dimensions, markups and pictures. Use the Edit Drawing tool to edit and delete elements of the drawing.

# 3D-Tool V15 Quick Reference: Tips

## The Cross Section Tool
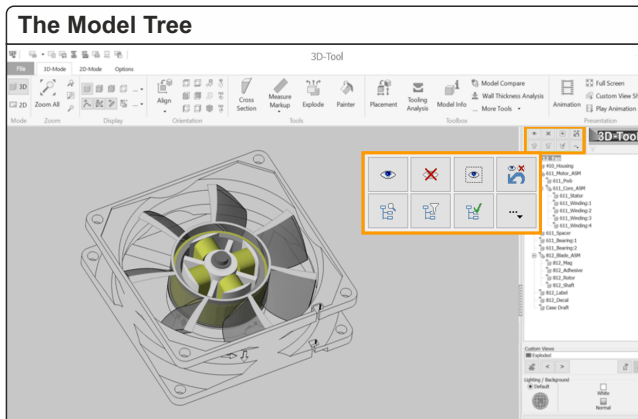


Use the **Cross Section tool** to access the internal parts of a model. The cross section controls offer multiple functions to align the cross section.
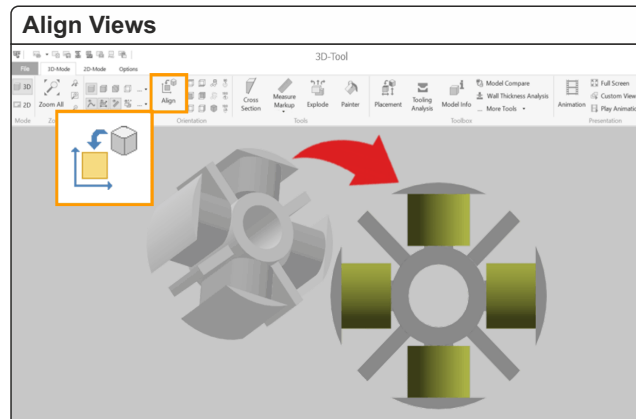
## Custom Views



Use **Custom Views** to store the state of the display including exploded parts and cross sections. This allows to quickly switch between views and is useful for printing and creating pictures.
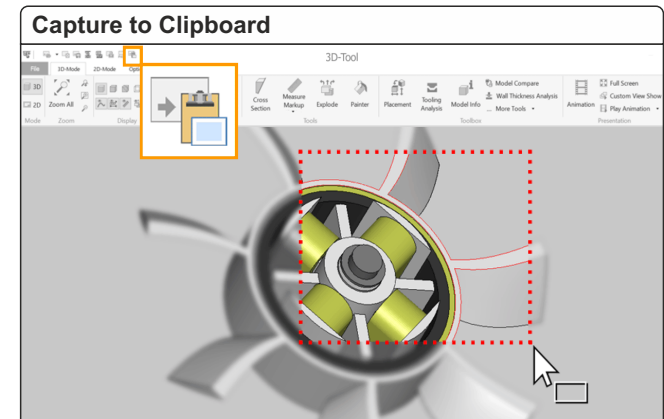
## The Model Tree



In the **model tree**, search and filter functions help in the selection of parts and assemblies, e.g. to change their visibility, color, transparency and shading.

## Align Views



Use **Align View** to quickly rotate the view into the next matching default view. The views from left, right, top, bottom, back and front are also directly selectable.

## Capture to Clipboard



Use **Capture to Clipboard** to copy a detail of the view to the Clipboard. A single click instead of the marquee select will copy the complete view.

## The Measure and Markup Tool



Use the **Measure and Markup tool** not only to add 3D dimensions and 3D notes. You may also add a background text or image, for example a company logo.

## The Tooling Analysis Tool



Use the **Tooling Analysis tool** to display drafts and their angles in different colors, to check for undercuts, and to calculate the projected area of the model.

## The Model Info Tool



Use the **Model Info tool** to display the volume, surface area, dimensions and weight of parts and assemblies. All information can be copied to the Clipboard.

## The Model Compare Tool



Use the **Model Compare** to identify differences between two models, as they are highlighted in color.

## The 3D-Tool Tools



3D-Tool offers **practical tools** for a detailed validation of 3D-models: besides measure and analyzing tools also a Model Compare and tools such as Painter, Explode and Animation.