3D-Tool V16 Quick Reference: 3D-Mode

The Ribbon Menu in 3D-Mode

Open/Export files — File — 3D-Mode — 2D-Mode — Options — Help — Hide menu

Mode	Zoom	Display	Orientation	Analysis	Tools	Report	Presentation	Model Tree
3D / 2D	Previous View, Zoom In, Zoom Out, Zoom All	Cross Section	Align	Measure Markup, Model Info, Tooling, Wall Thickness, Model Compare	Explode	Report	Animation, Full Screen, Custom View Show, Play Animation	Model Tree on/off, Delete Parts, More

- **Switch between 3D and 2D**
- **Zoom in and out of the model in the display**
- **Show cross section, change render mode and display settings**
- **Change orientation of 3D view**
- **Analysis tools: Measure/Markup, Model Info, Tooling, Wall Thickness, and Model Compare**
- **Toolbox for Placement Analyses, Model Compare and Repair**
- **Create detailed reports, save info to Clipboard**
- **Create, play animations and present in full screen mode**
- **Commands and functions for the models, assemblies and parts on the Model Tree**

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

Hide and show the side 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 Parts + Selection in tools	Multi-Select

Touch Gestures

Rotate	Move	Zoom	Context menu	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

Lighting / Background

Change the lighting direction to improve the contrasts.

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

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
- Cross 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 | Point | Center |

Manual

Decimal 0.XXX
Text size 14

<< Select Annotation >>

- |↔| Distance/Angle
- |↔ Distance only
- |↔x Distance in x-direction
- Y Distance in y-direction
- z Distance in z-direction
- |xy Dist./Angle to xy-plane
- |xz Dist./Angle to xz-plane
- |yz Dist./Angle to yz-plane
- Edge length
- Box
- Minimal box
- ‖ Wall thickness
- |‖ Clearance

- Note
- Model info note
- Cross section note
- Center of mass note
- Surface area note
- Contour length note
- Aa Background image/text

- Radius
- Diameter

- Edge point
- Free point
- Center of a circle

Distance: 4.00
Radius: 1.50 — New Radius — Info text
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 [ ] 🖋

Direct paint

Marquee select

Color selected

Manual color
- Pick color from the palette
- 🖋 Pick color from the model

Directly coloring by single selection
- Surfaces, curves, points, PMI
- Single triangles
- Plane surface
- Connected triangles
- Of same color

Coloring by marquee selection
- Triangles
- Curves
- × Reference points
- 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

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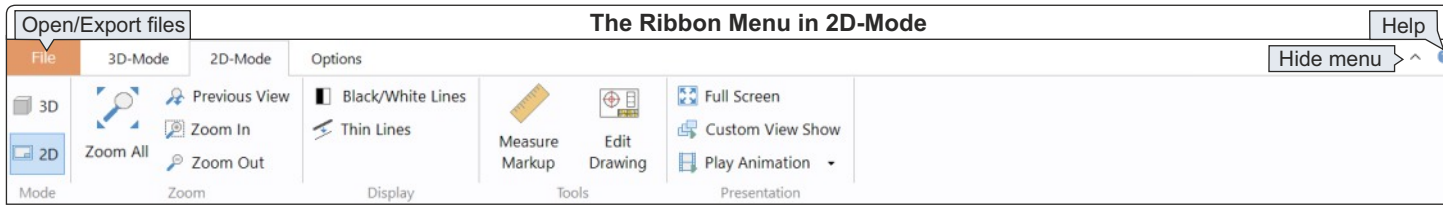-X +X -Y +Y -Z +Z

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
- Move parts outside parent assembly
- Reset parts to common explosion center or to original position

3D-Tool V16 Quick Reference: 2D-Mode

The Ribbon Menu in 2D-Mode

Open/Export files | Help | Hide menu

File | 3D-Mode | 2D-Mode | Options

Mode: 3D, 2D
Zoom: Zoom All, Previous View, Zoom In, Zoom Out
Display: Black/White Lines, Thin Lines
Tools: Measure Markup, Edit Drawing
Presentation: 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**

Tools

Measure Markup

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

The Quick Access Toolbar
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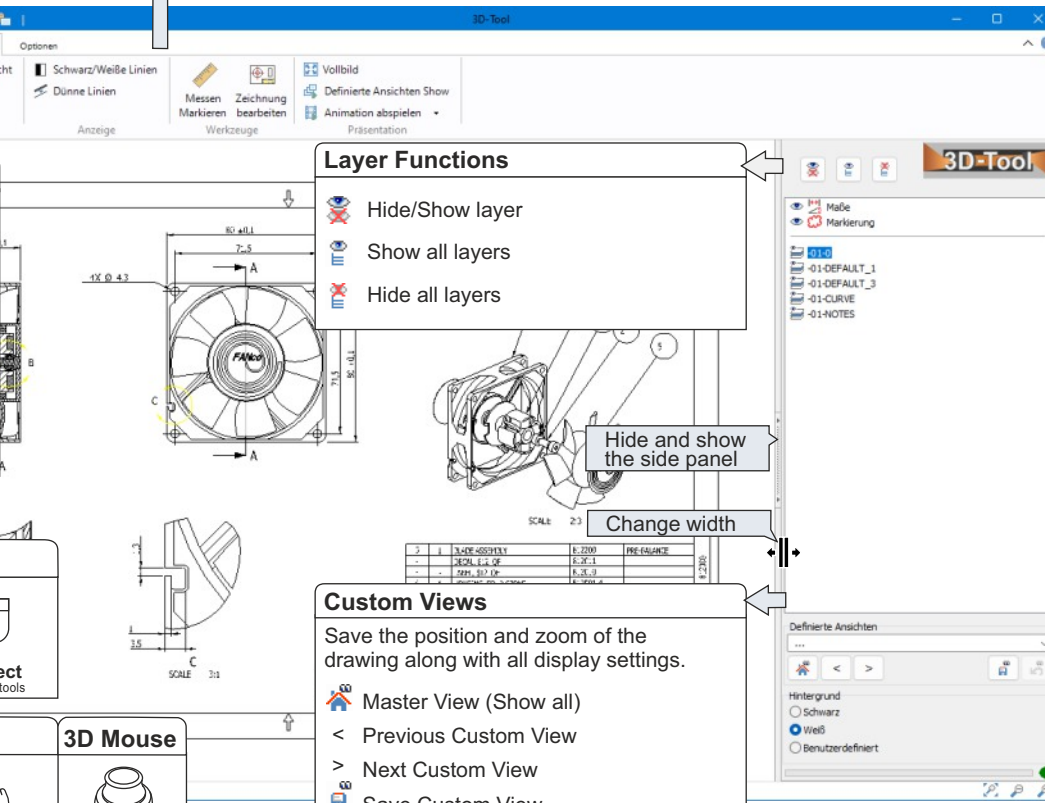
Layer Functions
- Hide/Show layer
- Show all layers
- Hide all layers

Hide and show layers.
- 3D-Tool dimensions
- 3D-Tool redlining
- Shown layer / Hidden layer

Hide and show the side panel

Change width

Mouse Actions
- Move
- Zoom
- Select in 2D tools

Touch Gestures
- Move
- Zoom
- Select in 2D tools

3D Mouse
Button function: Fit view

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

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 V16 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.

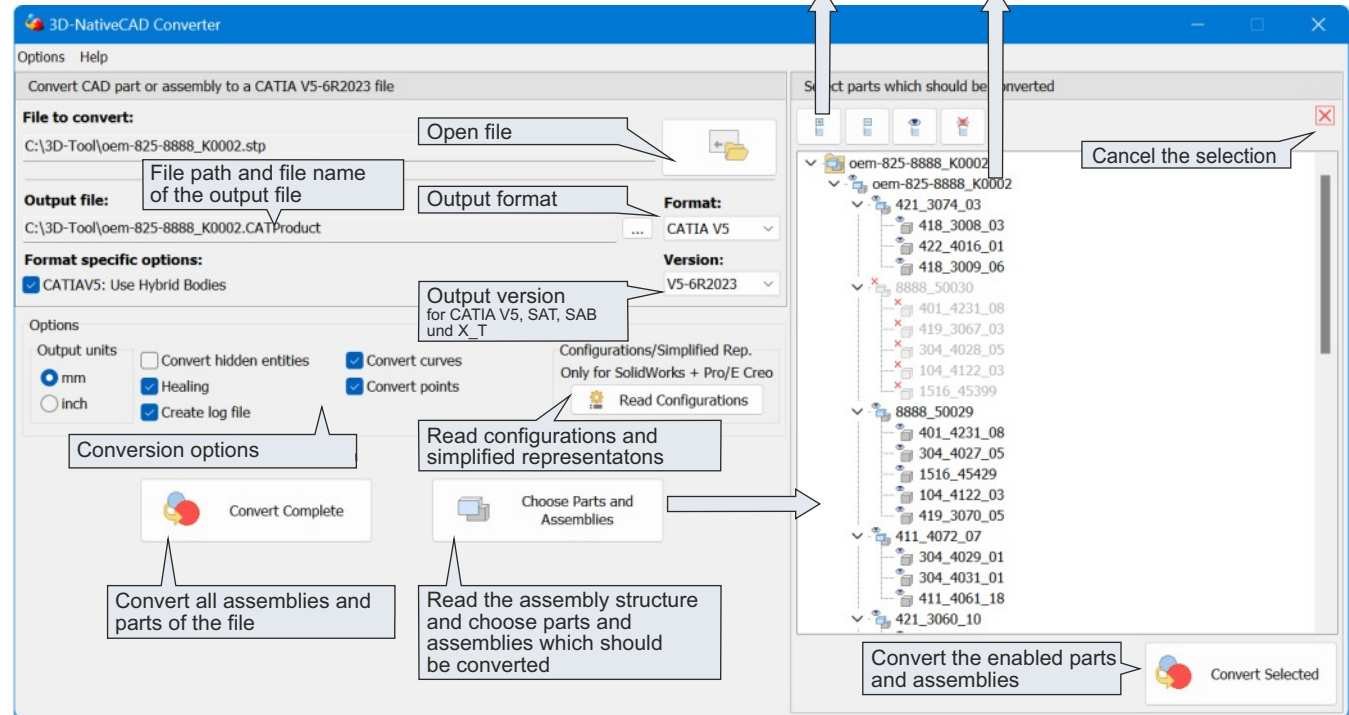- Expand all assemblies
- Collapse all assemblies
- Enable all parts
- Disable all parts

The Model Tree

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

- Enabled assembly
- Disabled assembly
- Enabled part
- Disabled part

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.

3D-NativeCAD Converter

Options   Help

Convert CAD part or assembly to a CATIA V5-6R2023 file

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

Open file

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

File path and file name of the output file

Output format — **Format:** CATIA V5

Format specific options:
☑ CATIAV5: Use Hybrid Bodies

Output version for CATIA V5, SAT, SAB und X_T — **Version:** V5-6R2023

Options

Output units
◉ mm
○ inch

☐ Convert hidden entities   ☑ Convert curves
☑ Healing   ☑ Convert points
☑ Create log file

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

Conversion options

Read configurations and simplified representatons

Convert Complete

Convert all assemblies and parts of the file

Choose Parts and Assemblies

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 V16 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

Graphic Hardware
☑ Enable hardware acceleration
☑ Use OpenGL 3.3

Optimize the 3D-performance by activating the **Hardware Acceleration** and the OpenGL 3.3 support in the 3D-Tool Preferences.
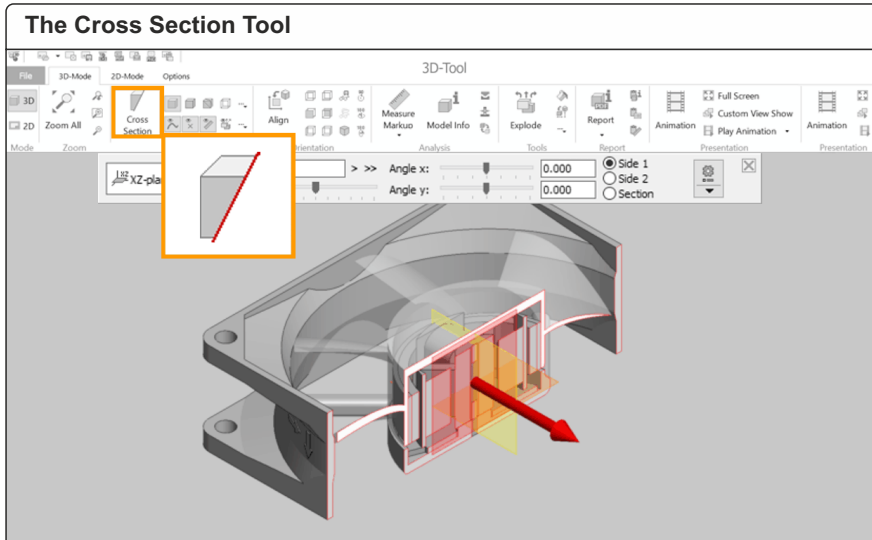
Import Quality Settings

HIGH
LOW
CAD

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.

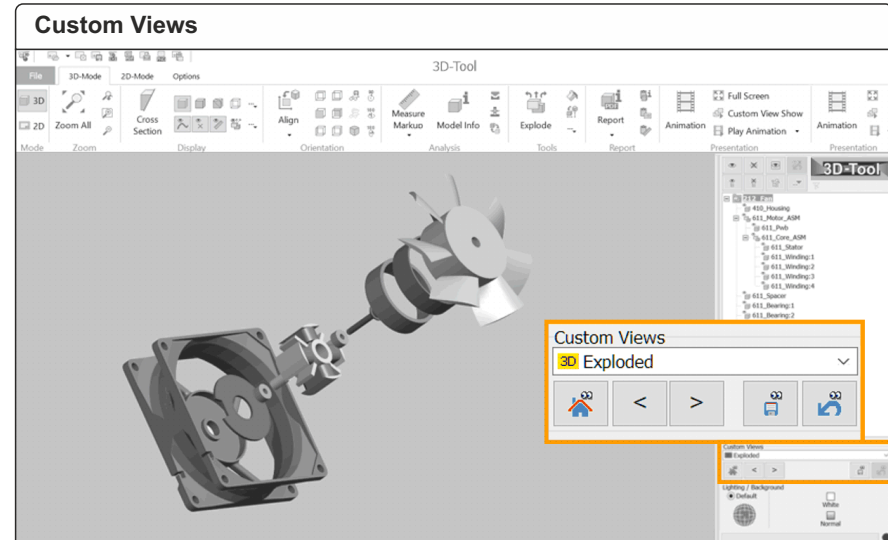## 2D - Mode

4X Ø 4,3
New label
R 9.50
FANco
80 ±0,1

In **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 V16 Quick Reference: Tips
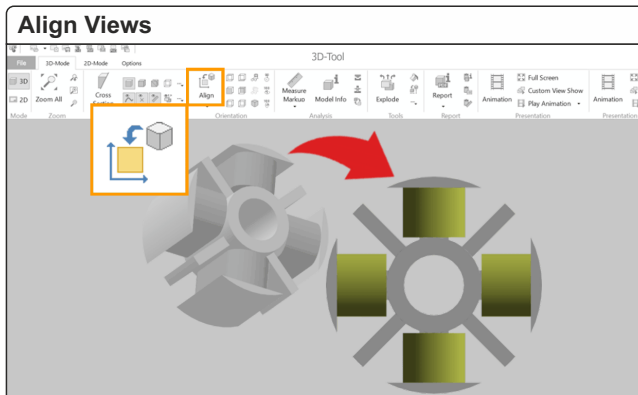
The Cross Section Tool

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.
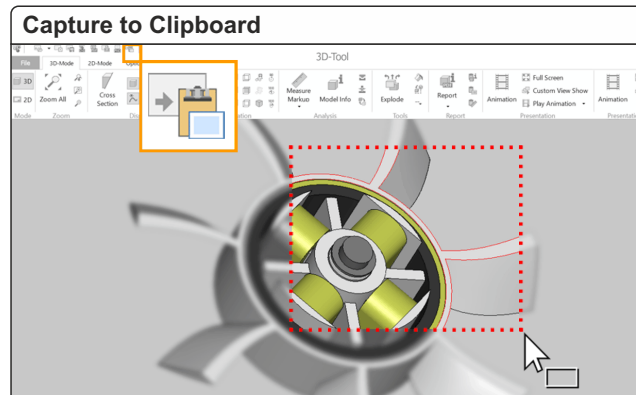
Custom Views

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.
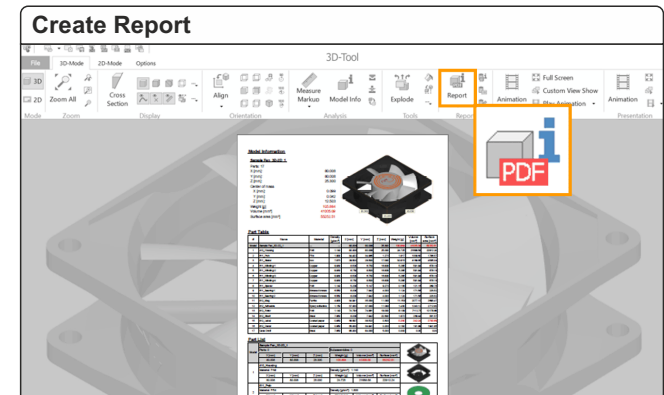
Align Views

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.

Create Report

Use the **Report function** to create detailed reports with model information, part list and an overview of the Custom Views as PDF, RTF, HTML and JPG/BMP.

3D-Tool V16 Quick Reference: Tips

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 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 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 Wallthickness Analysis Tool

Use the **Wall Thickness Analysis tool** to show the wall thicknesses of a model in different colors and to identify thick and thin areas.

The Model Compare Tool

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