

3D PDF Help guideline Working with 3D Drawings in PDF

HGZ1 / AES3.1

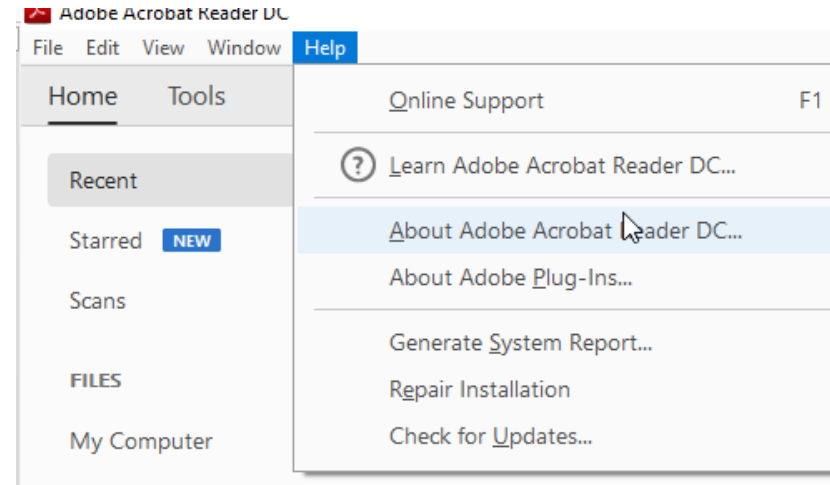
22.12.2021

Update

29.02.2024 (Slide11 added)

Required version pdf reader - Open the file

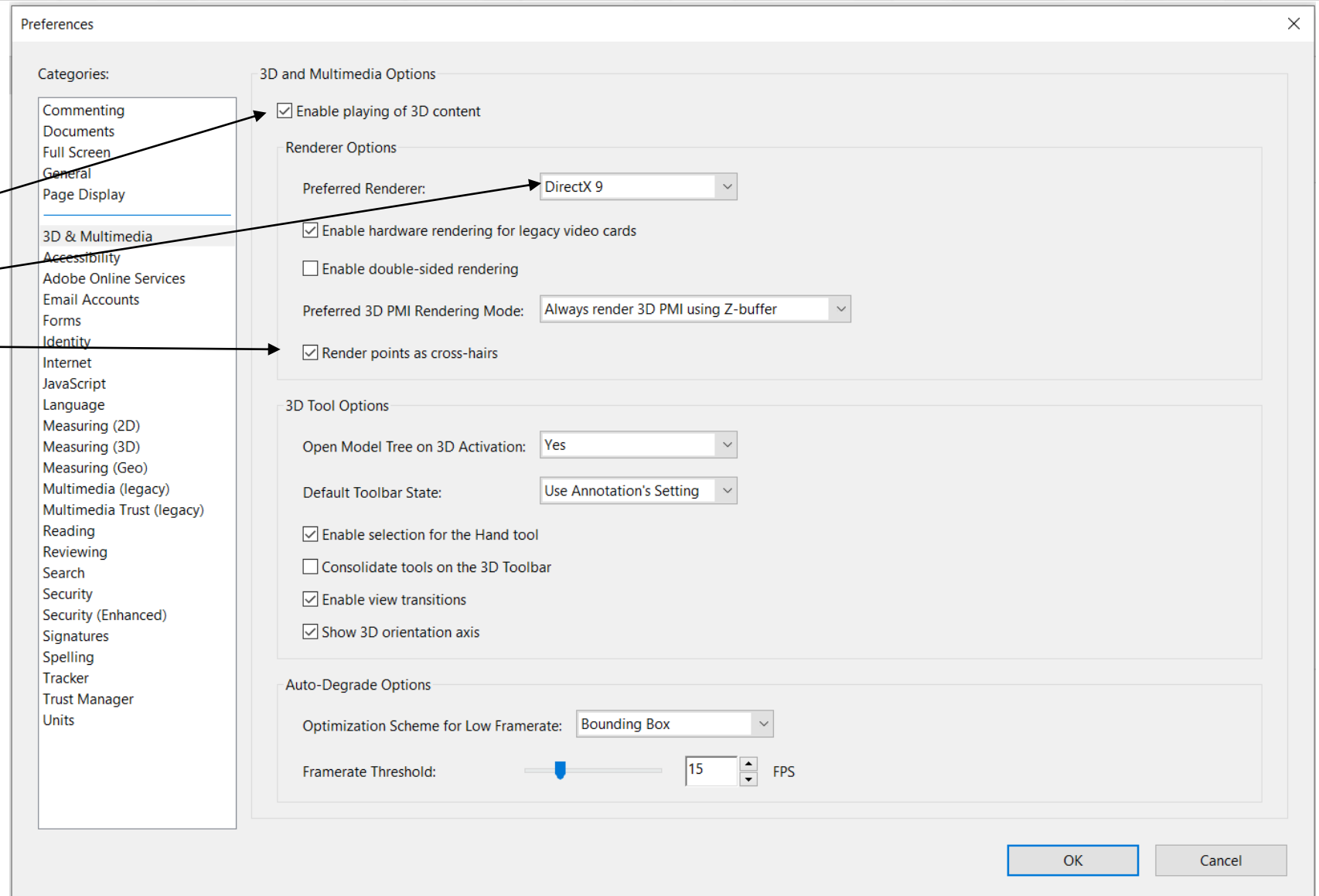
- As a minimum requirement, the Adobe Acrobat Reader should be installed on the PC in order to display the PDF files with all necessary functions
- The version can be checked by selecting the "About Adobe Reader" function from the "Help" menu in Adobe Acrobat Reader.
- In the pop-up window that then appears, the installed version is displayed under the program name.
The version should be the 2021.007.20099 and **32-bit** or newer
- Please don't use the 64-bit version



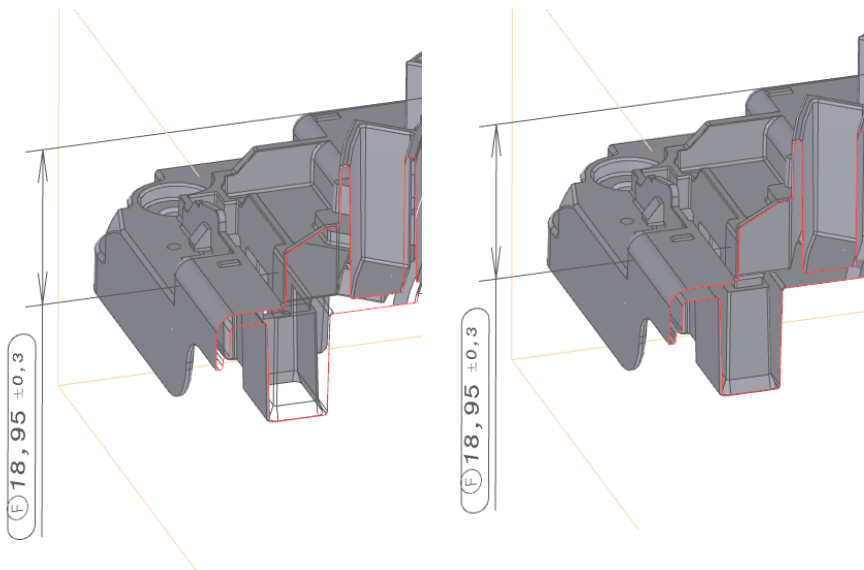
When opening a 3D drawing, the drawing area must be clicked again to activate the viewer mode.

Default Settings

1. Right click on the 3D model
2. Select the "3D Preferences"
3. Mark "Enable playing of 3D content",
4. Select "DirectX9"
5. Mark "Render points as cross- hairs",



- 6. "Enable double-sided rendering" must be activated
- 7. Select "Always render 3D in front of model"



Categories:

- Commenting
- Documents
- Full Screen
- General
- Page Display
- 3D & Multimedia**
- Accessibility
- Adobe Online Services
- Email Accounts
- Forms
- Identity
- Internet
- JavaScript
- Language
- Measuring (2D)
- Measuring (3D)
- Measuring (Geo)
- Multimedia (legacy)
- Multimedia Trust (legacy)
- Reading
- Reviewing
- Search
- Security
- Security (Enhanced)
- Signatures
- Spelling
- Tracker
- Trust Manager
- Units

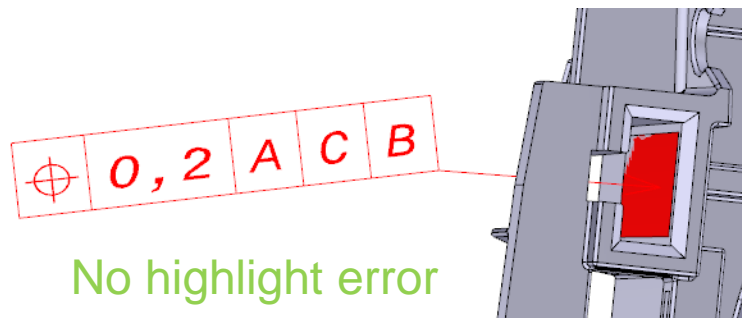
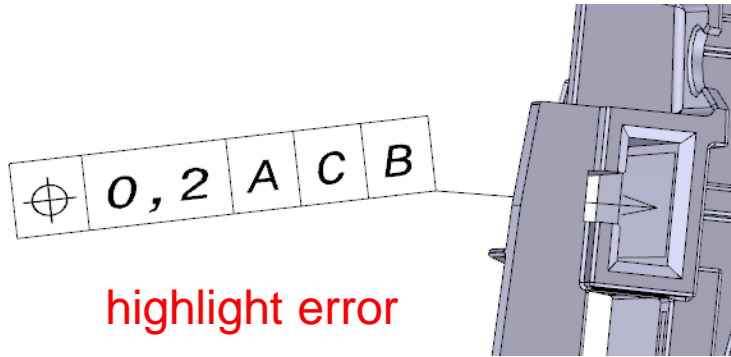
3D and Multimedia Options

- Enable playing of 3D content
- Renderer Options
 - Preferred Renderer: DirectX 9
 - Enable hardware rendering for legacy video cards
 - Enable double-sided rendering
 - Preferred 3D PMI Rendering Mode: Always render 3D PMI using Z-buffer (selected), Use content's setting, Always render 3D PMI in front of model, Always render 3D PMI using Z-buffer
 - Render points as cross-hairs
- 3D Tool Options
 - Open Model Tree on 3D Activation: Yes
 - Default Toolbar State: Use Annotation's Setting
 - Enable selection for the Hand tool
 - Consolidate tools on the 3D Toolbar
 - Enable view transitions
 - Show 3D orientation axis
- Auto-Degrade Options
 - Optimization Scheme for Low Framerate: Bounding Box
 - Framerate Threshold: 15 FPS

OK Cancel

Default Settings (only relevant if an highlight error occurs)

1. Right click on the 3D model
2. Select the "3D Preferences"
3. Deactivate "Protected Mode at startup" to highlight the areas with a click



Preferences

Categories:

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- Security (Enhanced)**
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Sandbox Protections

Enable Protected Mode at startup

Protected View Off

- Files from potentially unsafe locations
- All files

Enhanced Security

Enable Enhanced Security Cross domain log file [View](#)

Privileged Locations

If your workflows are negatively impacted by security settings, use Privileged Locations to selectively trust files, folders, and hosts to bypass those security setting restrictions. Privileged Locations allows you to work securely while granting trust to items in your workflow.

Automatically trust documents with valid certification

Automatically trust sites from my Win OS security zones [View Windows Trusted Sites](#)

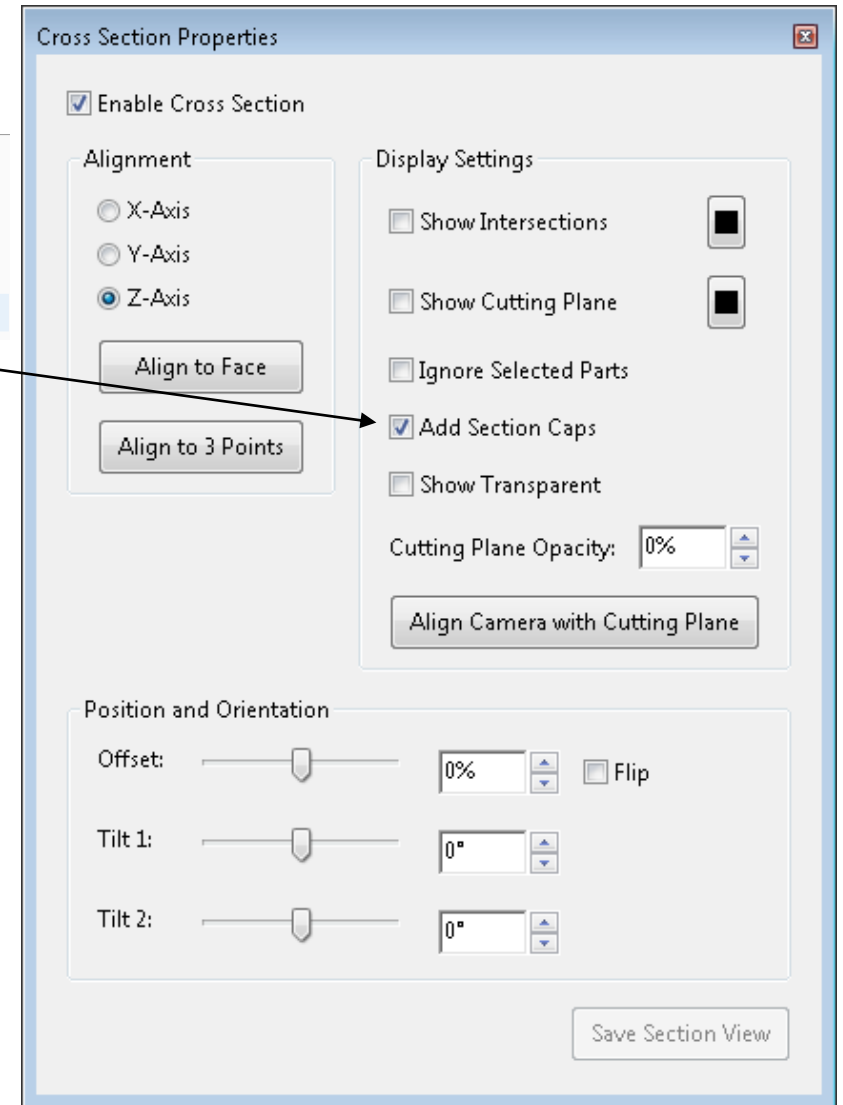
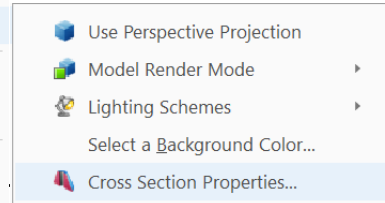
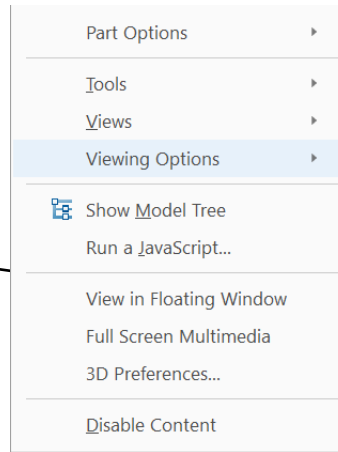
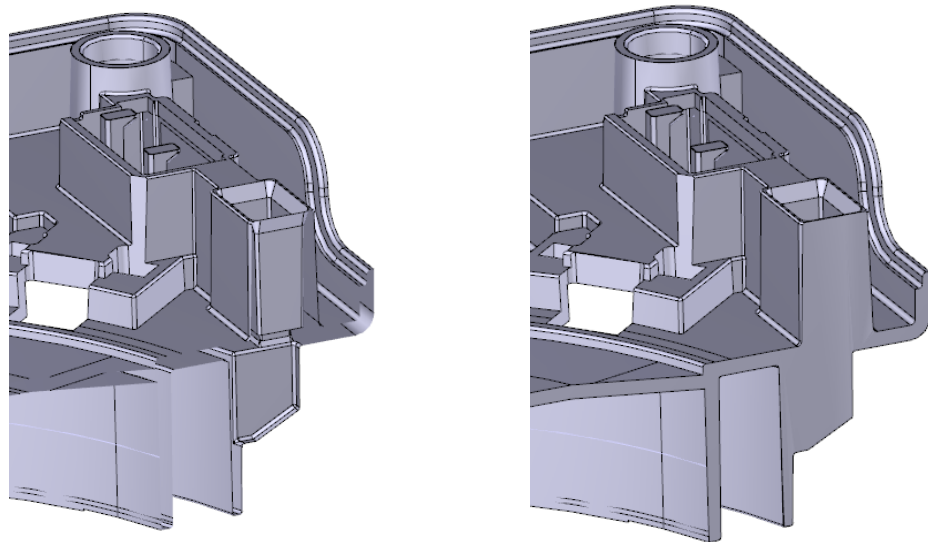
c:\cimdatabase\temp\cdb_view\10293413-3.pdf
 c:\cimdatabase\temp\cdb_view\10293925-3-0005a.pdf
 c:\cimdatabase\temp\cdb_view\10307273-2-0003a.pdf
 c:\cimdatabase\temp\cdb_view\10293414-5-0005a.pdf
 c:\cimdatabase\temp\cdb_view\10293411-3-0005a.pdf
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 c:\cimdatabase\temp\cdb_view\10293930-3.pdf
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 c:\cimdatabase\temp\cdb_view\10293413-3_0005a.pdf
 c:\cimdatabase\temp\cdb_view\10293411-3_0006a.pdf

[Add File](#) [Add Folder Path](#) [Add Host](#) [Remove](#)

[What is Protected View?](#) [What is Enhanced Security?](#) [What are Privileged Locations?](#)

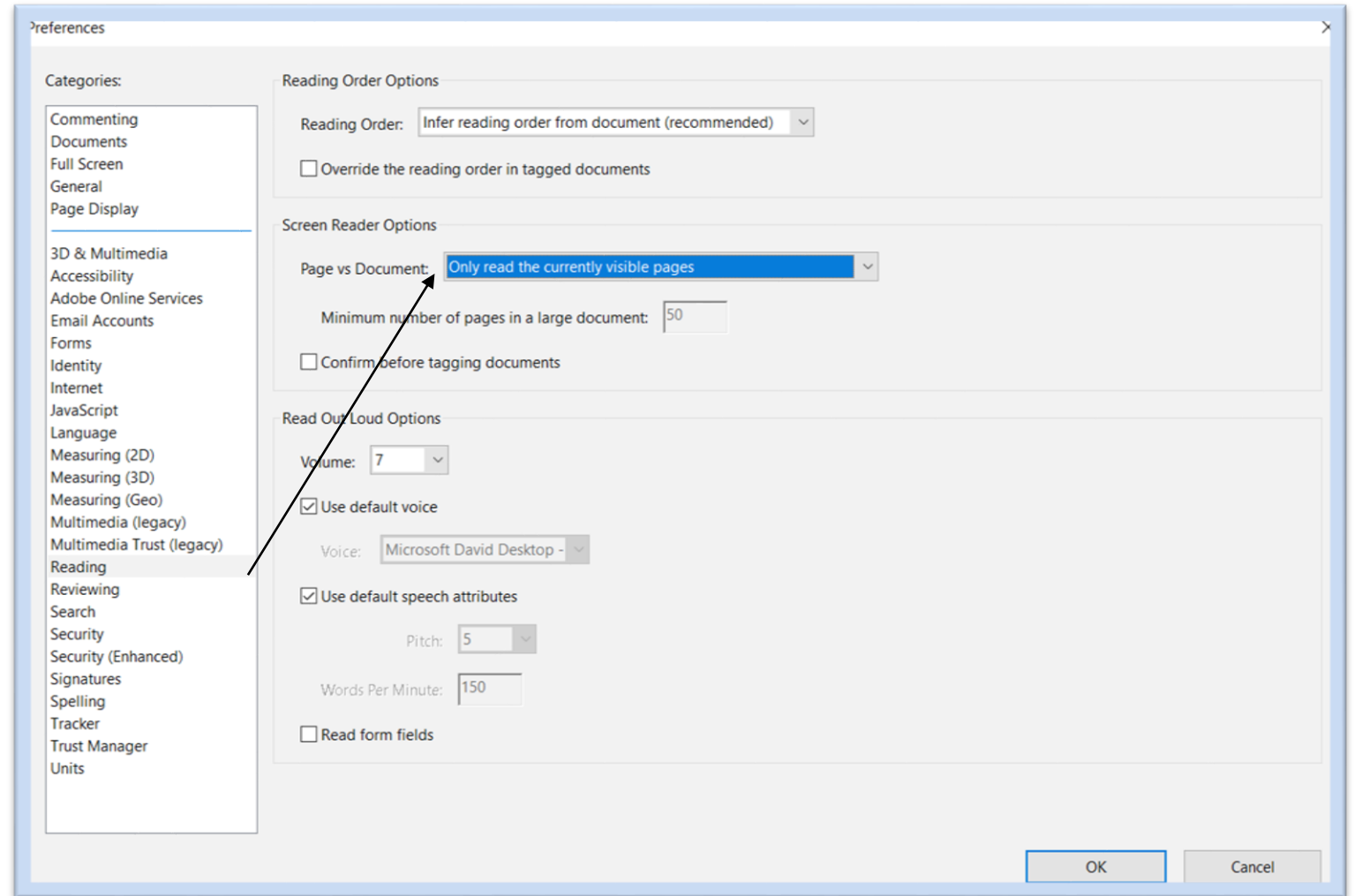
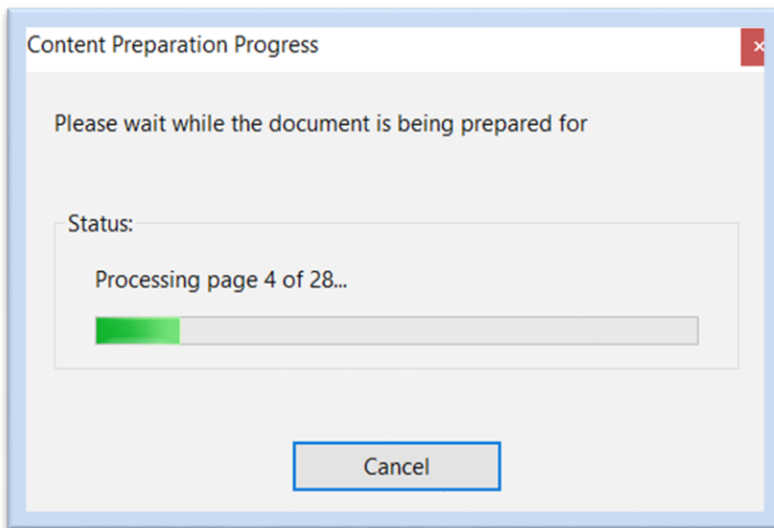
[OK](#) [Cancel](#)

1. Right click on the 3D model
2. Activate Viewing Options / Cross Section Properties
3. Enable “Add Section Caps”



Settings (only relevant if you get the left window “Content Preparation Progress”)

1. Right click on the 3D model
2. Select the “3D Preferences”
3. Reading
4. Under Screen Reader Options select “Only read the currently visible pages”.




Functions


Rotate, zoom and move the view

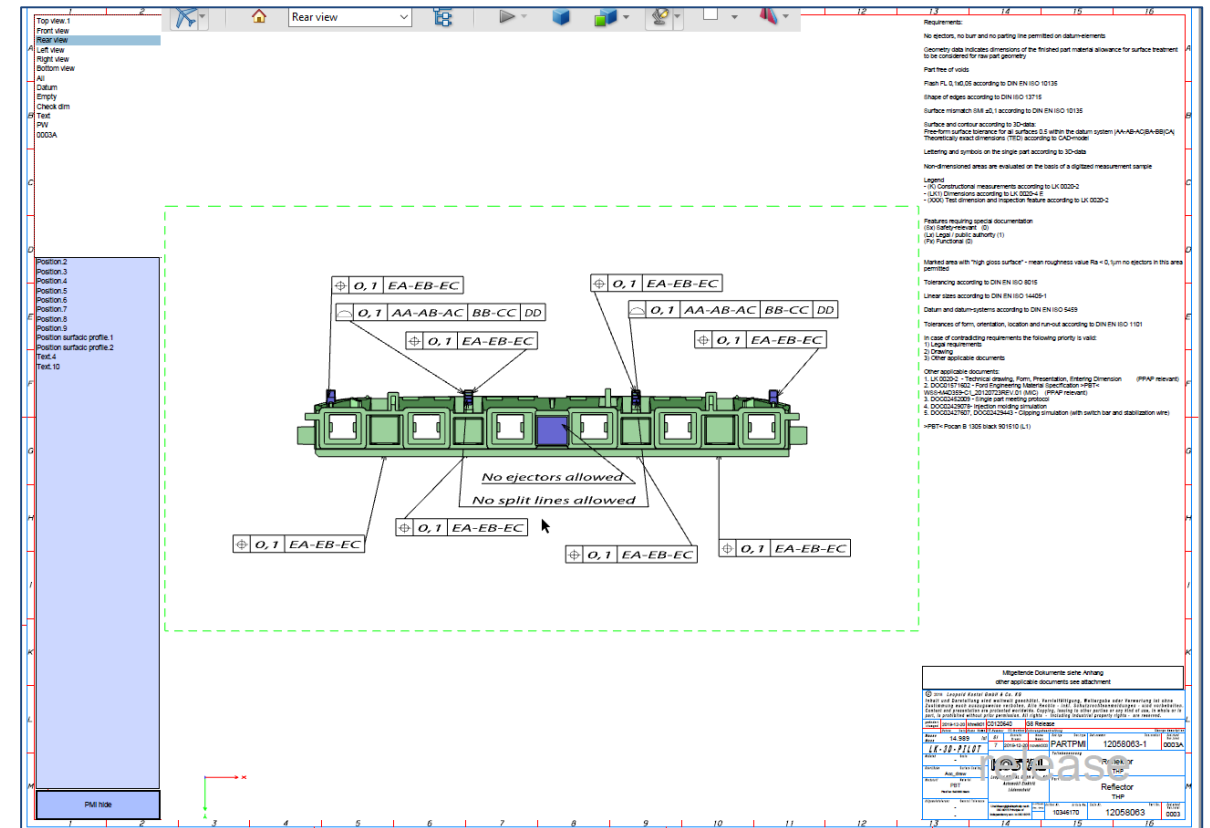
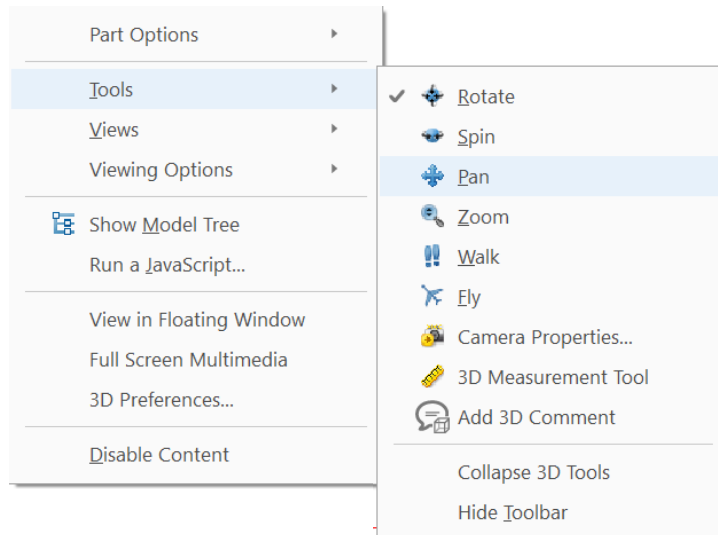
There are several ways to move and change the view.

To perform the described actions, the mouse pointer must be in the area of the parts view.

Rotate: In the basic position  "Rotate (all directions)" the view can be rotated to all directions with the left mouse button pressed.

Zooming: With the scroll wheel on the mouse, the view can be zoomed in or out; alternatively press the right mouse button and move the mouse left or right.

Move: Hold down both mouse buttons and move the mouse accordingly; alternatively click the right the mouse button and choose the  "Pan" symbol in the toolbar.



Text Requirements [Usage of the slider]

All additional requirements are described here.

If the text exceeds the bounding box, Acrobat Reader offers a slider.

To get the slider you have to click into the Text field.

The image shows a technical drawing of a component with various dimension callouts. A red box highlights a text field containing requirements. A yellow arrow labeled "slider" points to the right side of the text field, indicating that the text is truncated and a slider is used to view the full content.

Requirements:

- ejection, no burr and no parting line permitted on datum-elements
- geometry data indicates dimensions of the finished part (material allowance for surface treatment to be considered for raw part geometry)
- part line of voids
- flash FL 0,1x0,05 according to DIN EN ISO 10135
- shape of edges according to DIN ISO 13715
- surface roughness (Ra) at 1 according to DIN EN ISO 10135
- surface and contour according to 3D-data
- free-form surface tolerance for all surfaces 0,5 within the datum system (AA-BB-CC-BB-CC)
- theoretical exact dimensions (TED) according to CAD-model
- lettering and symbols on the single part according to 3D-data
- non-dimensional areas are evaluated on the basis of a digitized measurement sample
- (K) Constructional measurement according to LK 0020-2
- (L) Dimensions according to LK 0020-4
- (S) Test dimension and inspection feature according to LK 0020-2

features requiring special documentation:

- (S) Safety-relevant amount: 00
- (L) Legal / public authority amount: 01
- (F) Functional amount: 00

in case of contradicting requirements the following priority is valid:

- legal requirements
- drawing
- other applicable documents

Other applicable documents:

- TL 1010 Materials for Vehicle Interiors(L1)
- LK 0020-4 E Dimensioning: Definition of other than linear sizes
- LK 0020-2 E Technical drawing, Form, presentation, entering dimension
- LK 0020-3 E Simplified CAD drawings
- DOC02805399 Protocol of single part meeting
- DOC02804652 Mold flow simulation
- DOC02830250 K-Characteristic_Test specification and documentation

Tolerancing according to DIN EN ISO 8015

- Linear sizes according to DIN EN ISO 14405-1
- Datum and datum-systems according to DIN EN ISO 5459

Tolerances of form, orientation, location and run-out according to DIN EN ISO 1101

Information for difference production location:

KOMEX
Material No: 10053016-0001
Revision Nr: 10053016-0001

Select views, show and hide details

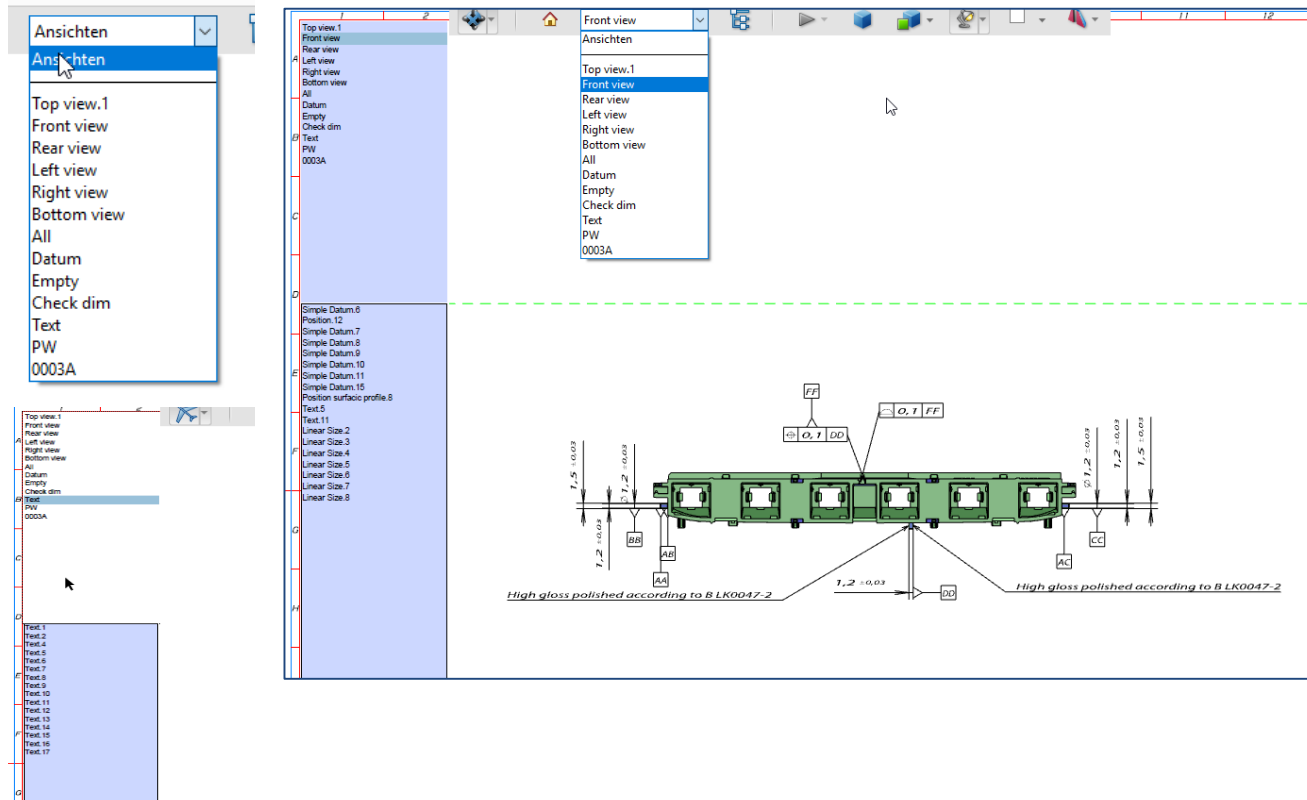
There are two ways to display the views specified in the file (example 1 and 2).

Via the pulldown menu of the toolbar (example 1) or via the model hierarchy on the left side (example 2).

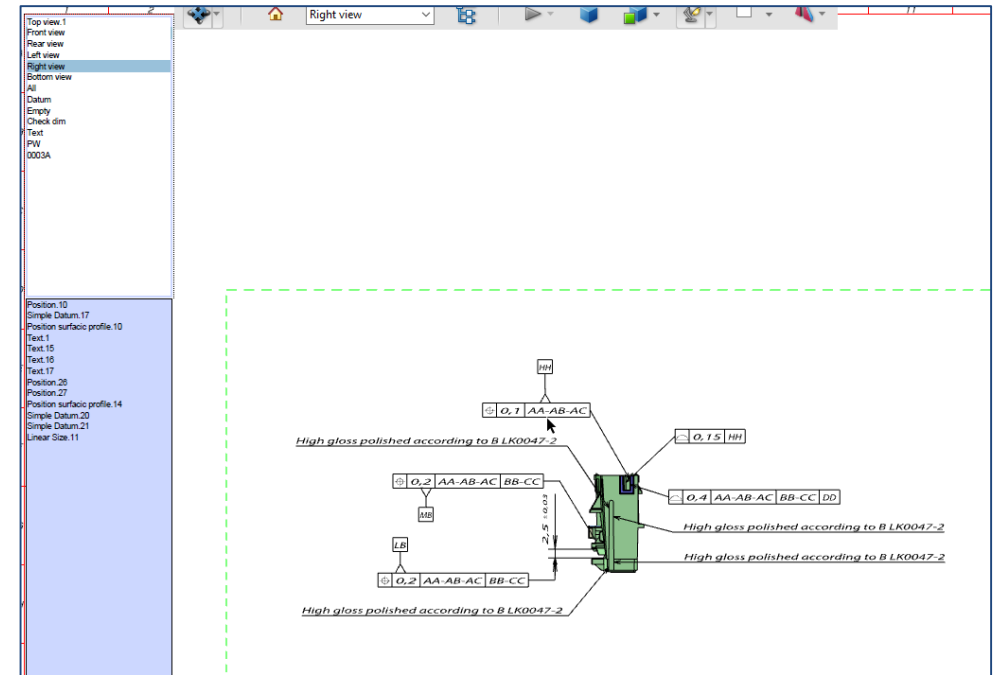
The model hierarchy can be shown or hidden with the button

With the button "standard view" you can restore the original view.

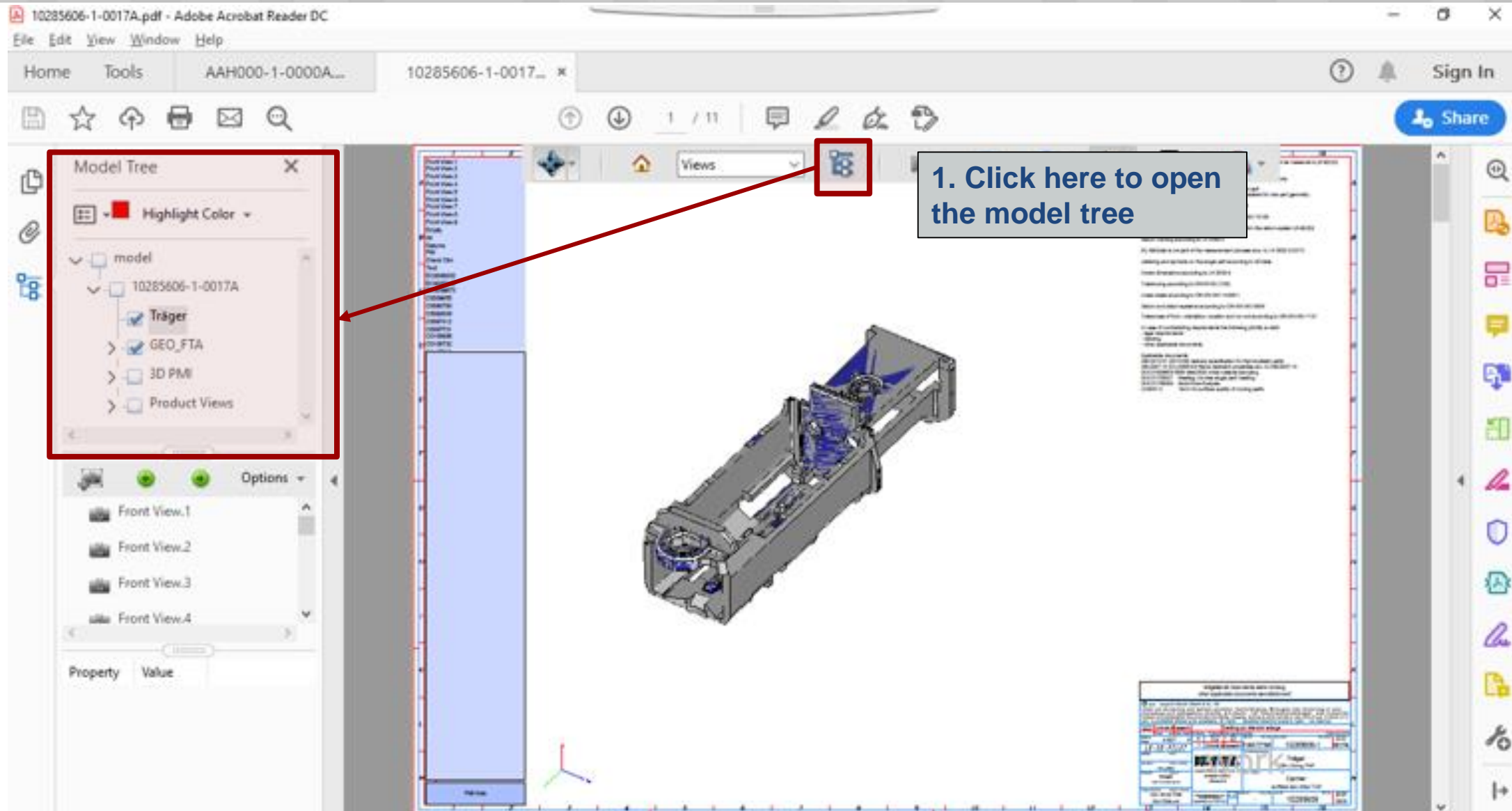
example 1:



example 2

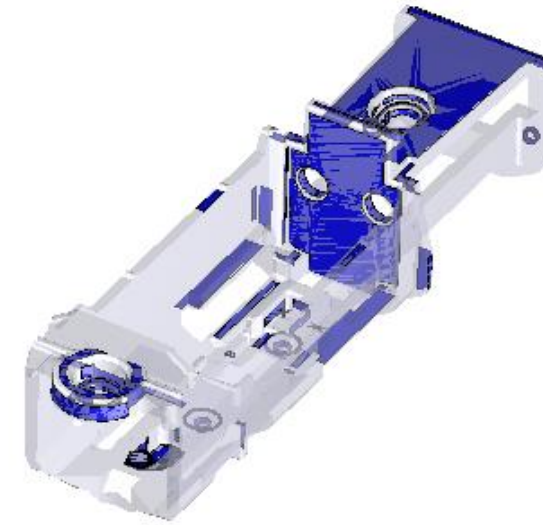
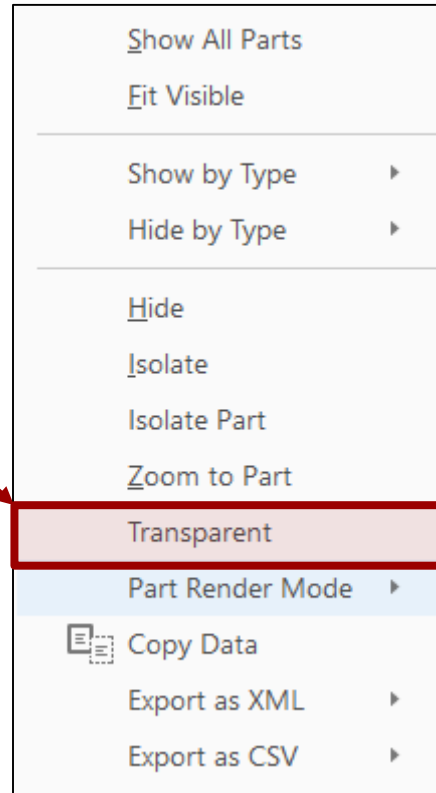
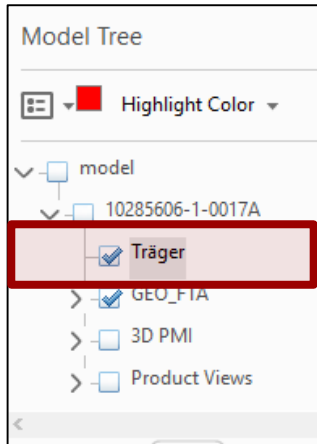


How to show all measure surfaces?



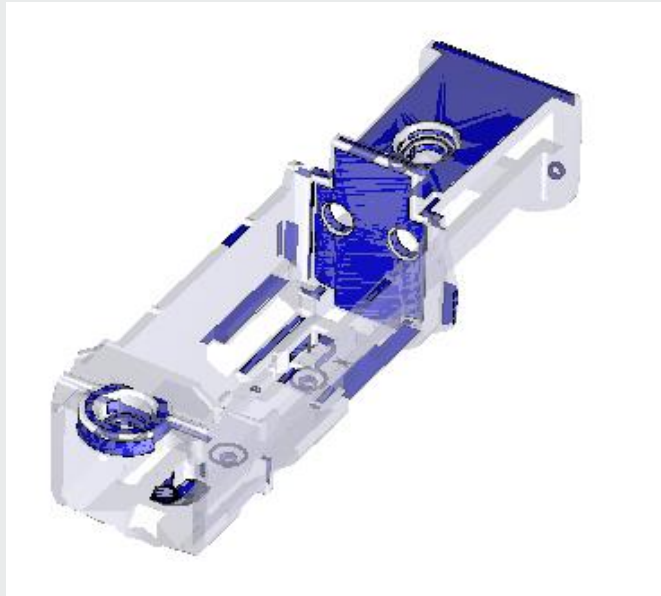
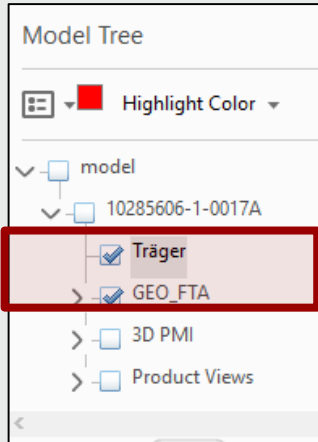
2. Right click to open the menu

3. Click on "Transparent"

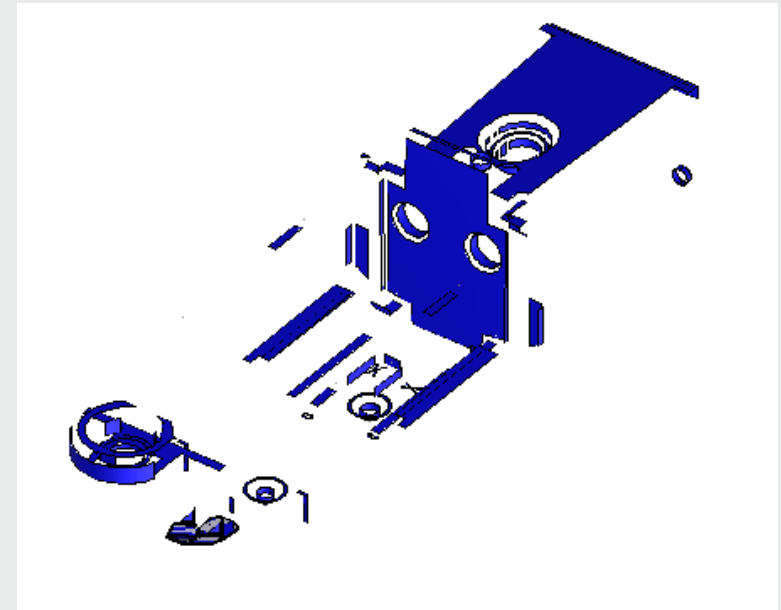
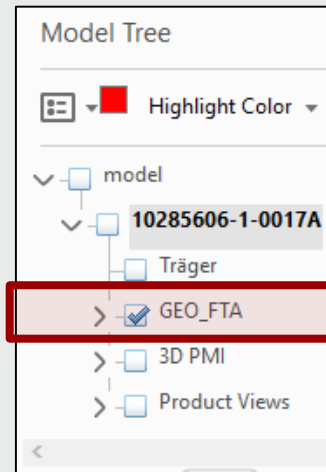


As result you get the Transparent 3D Model with all clearly visible measure surfaces.

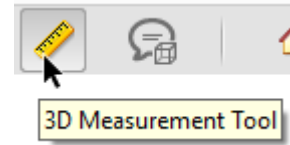
Model + Measure Surfaces



Measure Surfaces



Various measurement functions can be activated with the "3D measurement tool" button. The respective functions are indicated by an info text.



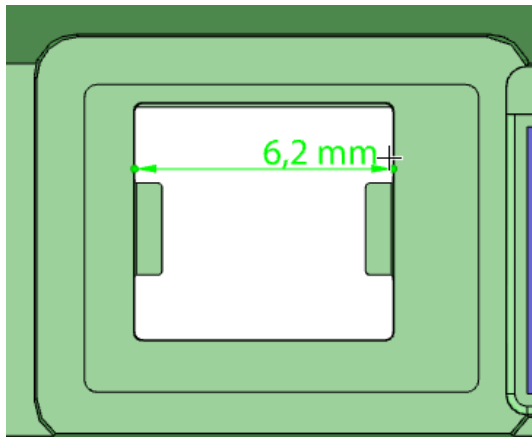
button.

The respective functions are indicated by an info text.

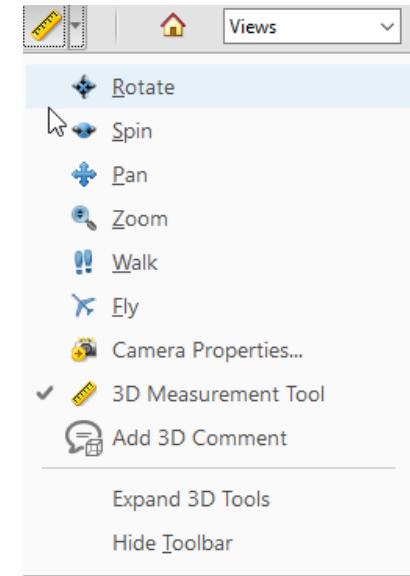
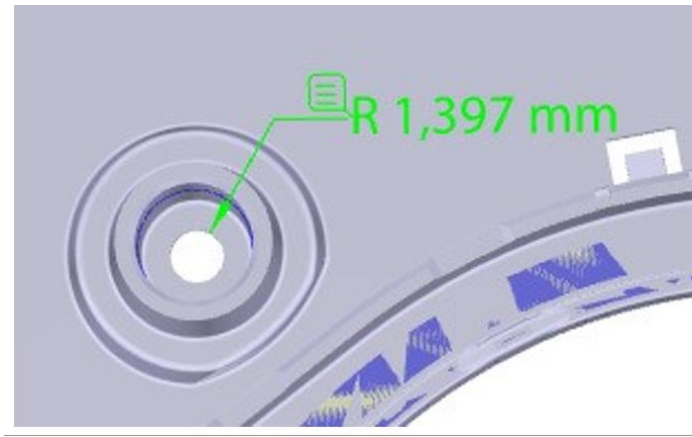


With these measurement functions it is possible to measure dimensions that have not been entered, e.g. Measure distances, radii etc. and then also print out these dimensions (see examples below).

example 1



example 2



A cross-sectional view can be activated with the "Switch cross-section on / off" button (see example).
Via the associated pulldown menu (Fig.1) a window can be opened in which the properties of this cross section can be set (Fig. 2).

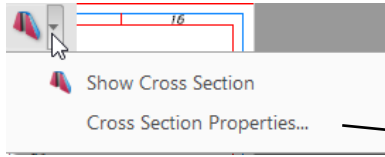


Fig.1

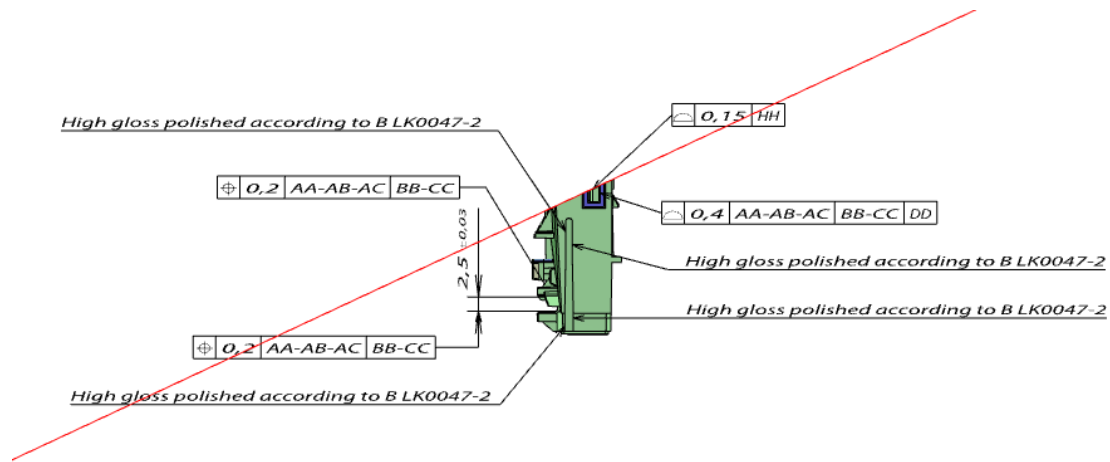
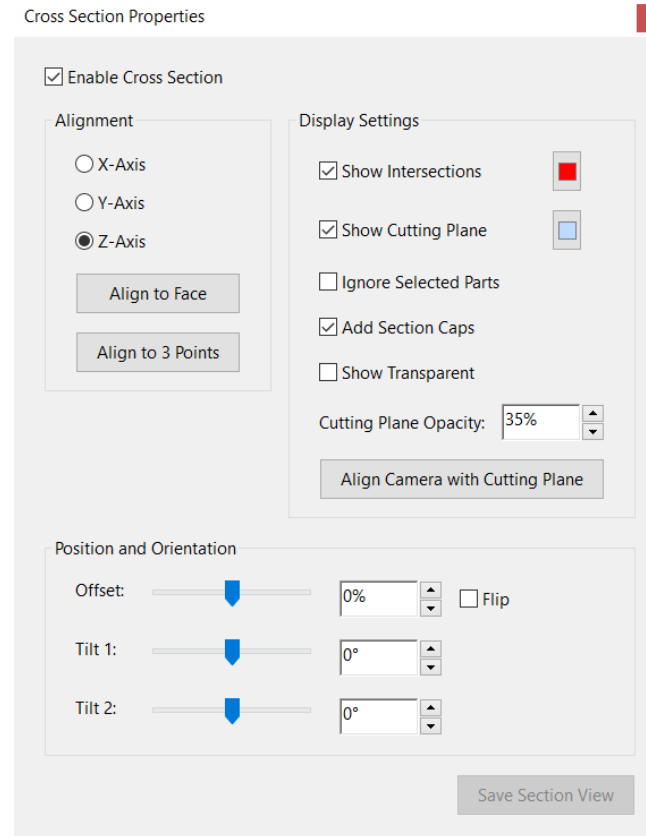



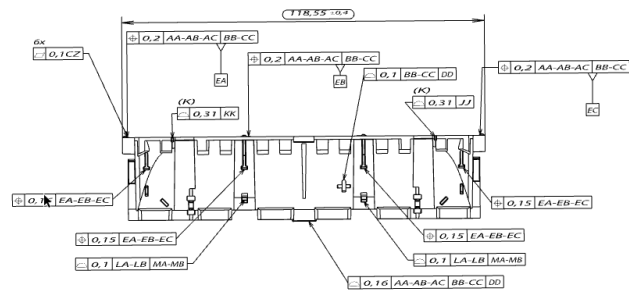
Fig.2



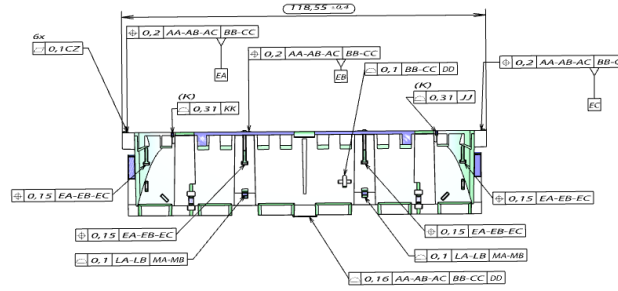
With the pulldown menus of the buttons  "Model rendering mode" and "Activate additional lighting" it is possible to change the part view, so that e.g. Contours or details become more visible (see example).

examples

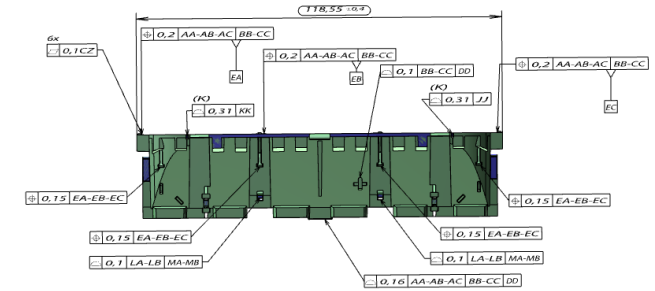
Standardview



filled view



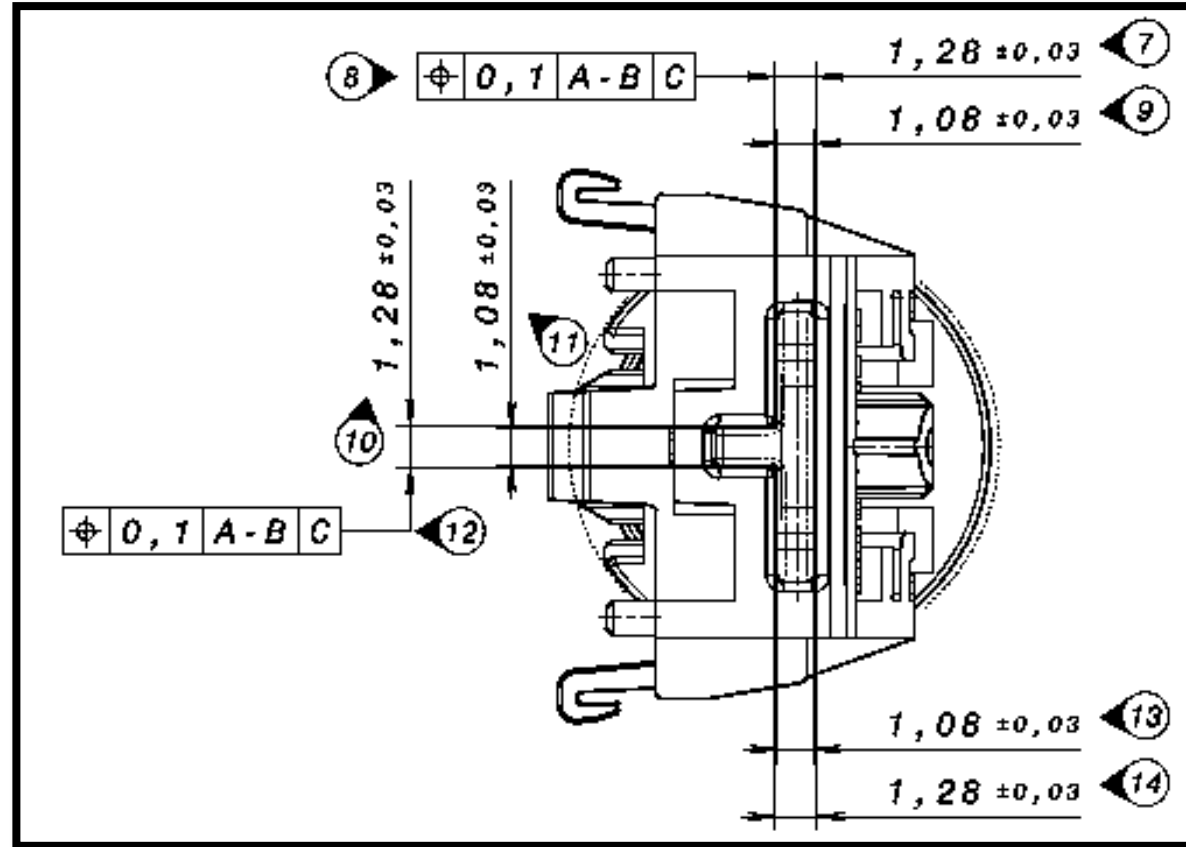
filled view and Daylight



Printing:

Basically, all views that have been created with the different tools can also be printed. This is done using the normal print function of Adobe Acrobat Reader.

Conventional 2D drawing use numbering and certification-stamping for a clearly identification of the measure features (see example of a 2D drawing)



The 3D PDF offers a NEW possibility, to identify the measure features clearly. Every measure feature has its own clearly feature name which is assigned to a view and a measure surface (red marked area).

