Inventor AnyCAD: What Is It and How Do I Use It?

Michael Davis – **www.YourCad.Guru / YCG Inc.**

MFG462067 In 2016, Autodesk added AnyCAD to Inventor software. This new enhancement tool changed how Inventor and Autodesk software now handle the importation and translation of other 3D software files. So, in this class we'll take a closer look at its features and functions.

- Learning Objective 1
  Discover this enhancement and how Inventor now handles the importing and translation of other 2D/3D files.

- Learning Objective 2
  Discover the difference between Reference and Convert Model.

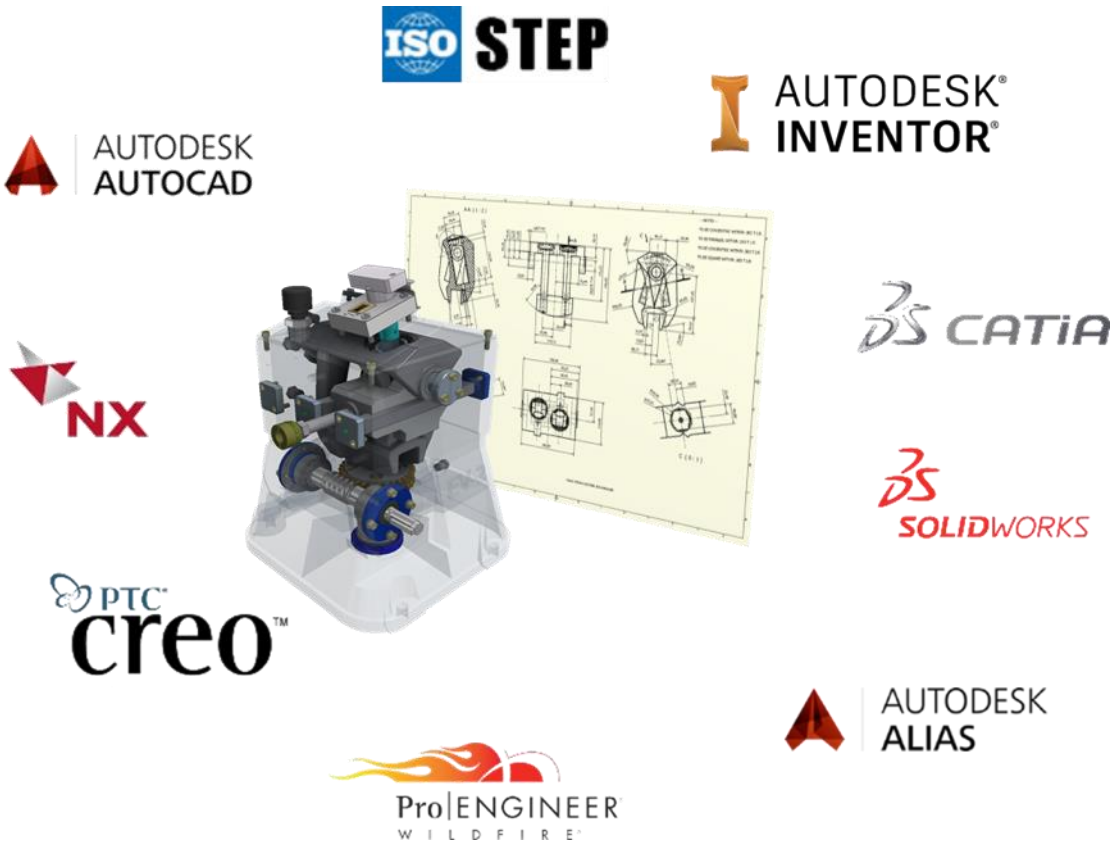
- Learning Objective 3
  Discover formats that AnyCAD can import, , Inventor backwards compatibility referencing file(s),

- Learning Objective 4
  Look at the Object tab (load model/status, demo IPT, assemblies, step files for Inventor, and deriving to an IPT).

About the Speaker(s)
Michael Davis is currently a Mechanical Design Engineer, and the owner of YourCad.guru. He's based in Charlotte, North Carolina, with a remote office in the Metro Detroit area of Michigan. He provides design services, support, tips & tricks, and updates for various Autodesk products. Michael has been working as a Mechanical Design Engineer for over 25 years, as well as being an Mechanical Design Engineer, he has also held the position of Cad Manager where he has provided Cad support and mentoring to others. Michael has been using Autodesk products for the mass majority of his careers and was a former Autodesk support employee. He has been part of the Autodesk Expert Elite program for 2 years and helps on various Autodesk forums (in English and German) daily. This is Michael's second year speaking at AU.

AnyCAD

Prior to Inventor 2016, when you had a file from another supporting CAD applications, you'd just translate it into Inventor and saved it as a related Inventor file. In 2016, Autodesk introduced AnyCAD, giving you the option to keep those types of files in their native format. With 2017, keeping STEP files in their native format is also now possible. Note: For 2017 R4, it can "reference" open Inventor 2018 files.

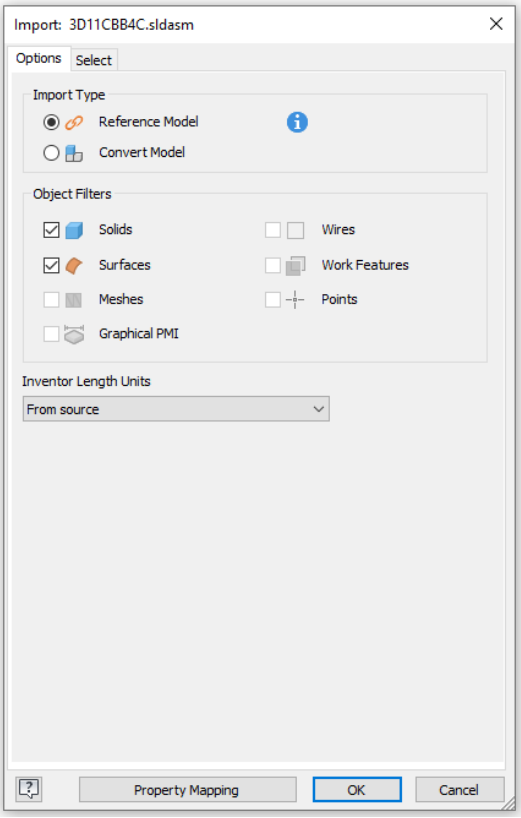


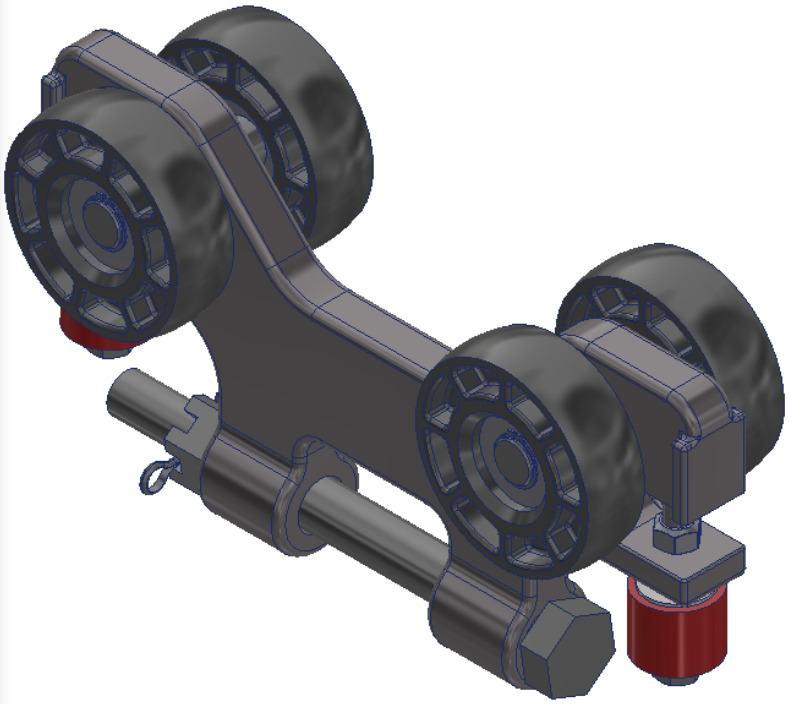
Options of Translation:

Reference Model: This option maintains a link to the selected file which enables you to monitor and update as the model changes. Use this option if the design is evolving and you are not required to edit the referenced model. If changes are made to the file in its respective product after import, the Inventor file reflects the changes.

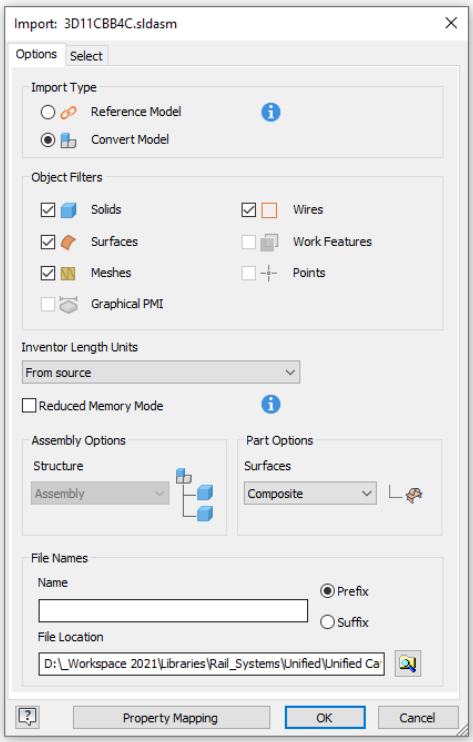
Convert Model: This option creates new Inventor files which are not linked to the original. Use this option if you plan modify the model for a new design.

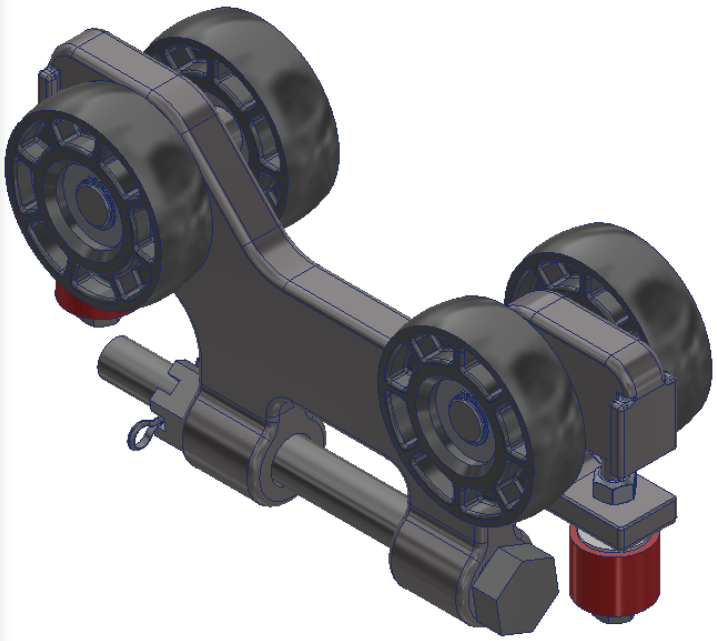
Reference Model User Interface



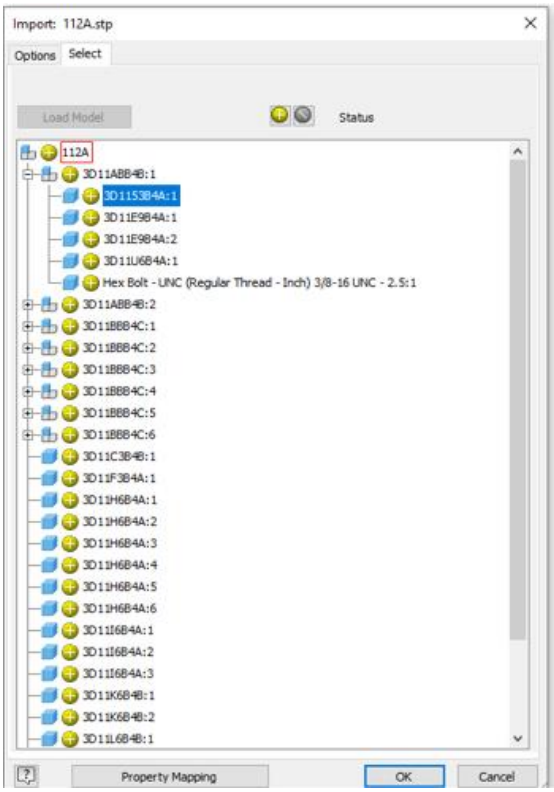


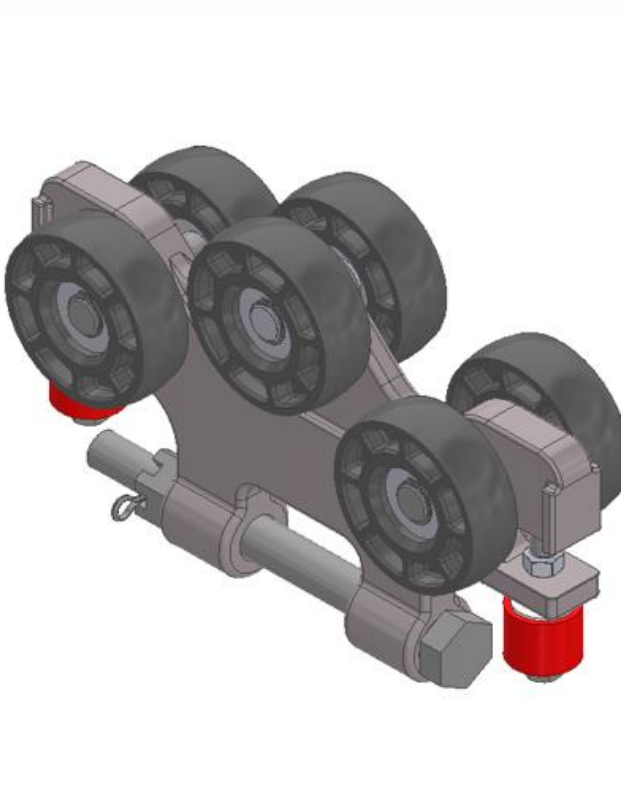
Convert Model User Interface



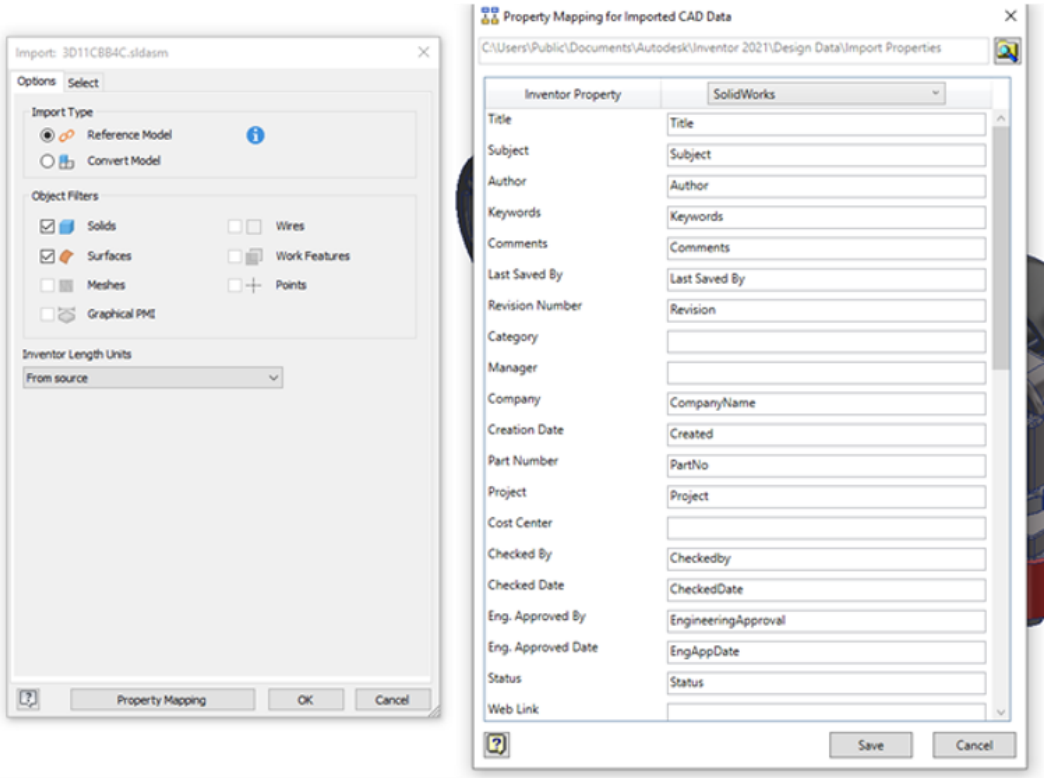


Select / Load Model Interface





Select / Load Model Interface

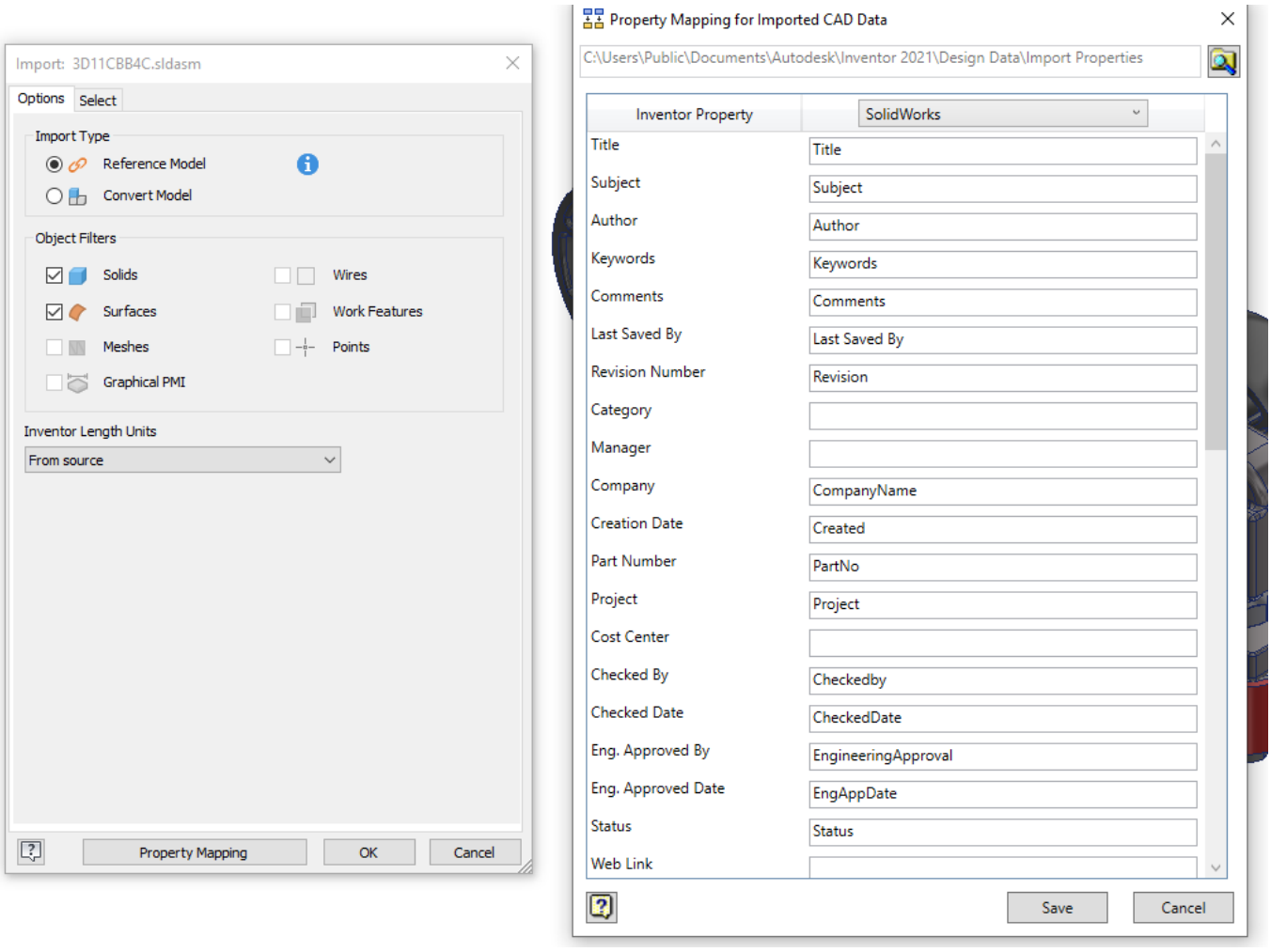


Easily map properties from CATIA, Pro/Engineer and Creo parametric, NX, STEP, Solid Edge, and Solidworks to standard Inventor properties with the Property Mapping for Imported CAD Data tool.

The Property Mapping for Imported CAD Data tool is an interface for modifying the CATIA, Pro/Engineer and Creo parametric, NX, STEP, Solid Edge, and Solidworks XML design data files located in Users ➤ Public ➤ Public Documents ➤ Autodesk Inventor [version] ➤ Design Data ➤ Import Properties.

1. Launch the Property Mapping for Imported CAD Data tool in one of 2 ways:
   - Click the **Property Mapping** button at the bottom of the Import dialog box. This button is only enabled if you are importing a CATIA, Pro/Engineer and Creo parametric, NX, STEP, Solid Edge, or Solidworks file into an assembly file.
   - Start menu ➤ Programs ➤ Autodesk ➤ Inventor [version] ➤ Tools ➤ Property Mapping for Imported CAD Data.
2. In the Property Mapping for Imported CAD Data dialog box, click the drop down menu and select the format you want to map the Inventor standard properties to. When the Property Mapping tool is launched from the Import dialog box, the format automatically defaults to the format of the file you are importing.

To Map Properties from Imported CAD Data to Standard Inventor Properties



AnyCAD Examples Tips

If the non-native file is never going to change, then use AnyCAD Reference. Insert the file, drop it into your assembly and forget about it. Think of these components being like conten center components, if they have the right material properties, look good on the screen and are accurately sized, they can then stay the non-native file type.

If the non-native file is going to change it doesn't mean you have to use AnyCAD Reference all the time. Example, if a component is changing drastically, meaning faces, features, connection – constraint points are getting changed – deleted, it might be better to convert it and then rebuild it. This would be a file by file decision.

If the non-native CAD file is going to change, but the connection points you previously used for constraints aren't changing, then it's best to use AnyCAD Reference. This will save you time if the non-native file changes. You shouldn't have to rebuild – re-constrain the model

If you're going to modify your non-native CAD files (Direct Edit for example) then don't use AnyCAD Reference. It's best to use the convert option vs using Direct Editing tools, as these updates could be lost if the non-native file is updated.

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AnyCAD doesn't fix bad files. If the file is sent over bad, it will likely have errors still after you bring it in.

Discover formats that AnyCAD can import, and discuss Fusion 360, Inventor backwards compatibility referencing file(s)

Important: It is a best practice to always use unique file naming for exported files. This ensures the design data for each exported file is preserved.

Translator	Import	Export
Alias	V10 or later	
CATIA V4	All Revisions	
CATIA V5	R6 - V5-6R2020	R10 - V5-6R2020
Creo Parametric	1.0; 2.0; 3.0; 4.0, 5.0 , 6.0	
IGES	All Revisions	5.3
JT	7.0 – 10.5	8.0, 8.1, 8.2, 9.0, 9.1, 9.2, 9.3, 9.4, 9.5, 10.0, 10.1, 10.2, 10.3, 10.4, 10.5
IFC		2x3
NX	Unigraphics V13 - NX 12, NX 1899 Series	
OBJ	N/A	N/A
Parasolid	Up to 32.0	9.0 - 32.0
Pro/ENGINEER	Up to Wildfire 5.0	
Pro/ENGINEER Granite	Up to 12.0	1.0 - 12.0
Pro/ENGINEER Neutral	N/A	N/A
Rhino	Up to 6.0	
SAT	Up to 7.0	7.0
SolidWorks	2001 Plus – 2020	
Solid Edge	V18 - V20, ST1 - ST10, 2020, FrameDesign	N/A
STEP	AP203E2, AP214, AP242	AP203E2, AP214, AP242
STL	N/A	N/A
XGL/ZGL		N/A

Supported AnyCAD Reference Model Formats

Format	Version	Selective Import	Associative Upda
CATIA V5	R6 - V5-6R2020	✓	✓
PTC Creo	Up to 6.0	✓	✓
PTC Wildfire	Up to 5.0	✓	✓
SolidWorks	2001 Plus - 2020	✓	✓
Siemens NX	Unigraphics V13 - NX 12, NX 1899 Series	✓	✓
Alias	v11 - Later	✓	✓
AutoCAD 2d	Up to 2018		✓
STEP	AP203E2, AP214, AP242	✓	✓
Solid Edge	V18 - V20, ST1 - ST10, 2020, FrameDesign	✓	✓

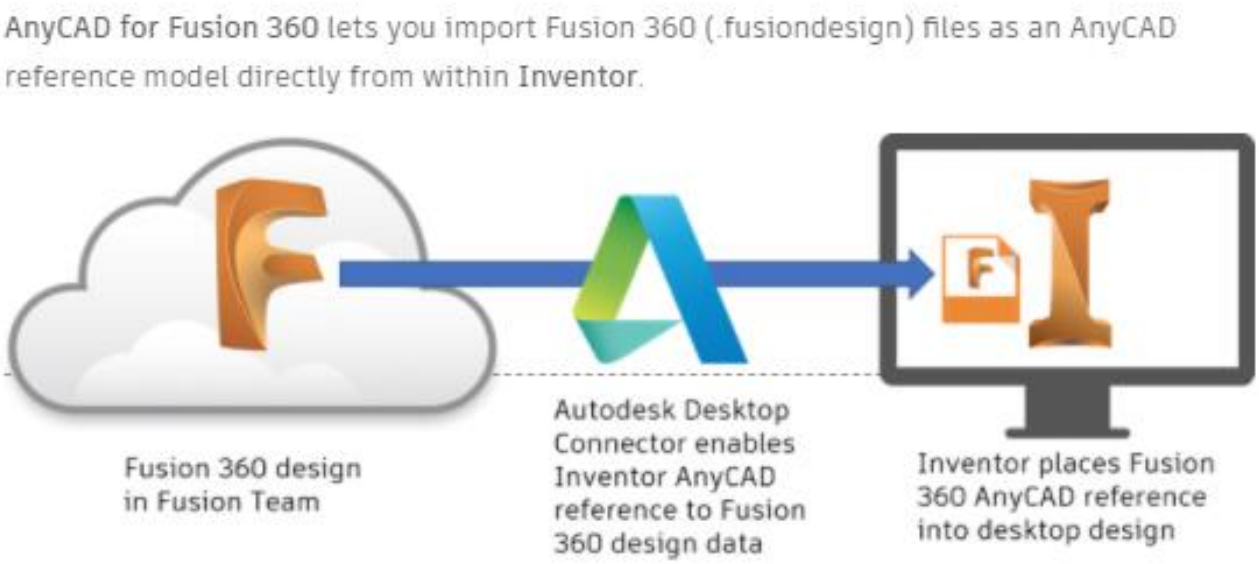
2018 Translators (3rd Party files) and Supported File Versions.

2019 Translators (3rd Party files) and Supported File Versions.

2020 Translators (3rd Party files) and Supported File Versions.

2021 Translators (3rd Party files) and Supported File Versions.

To Import Fusion 360 Files as an AnyCAD Reference Model



Revit – Inventor Collerborate Video

https://www.youtube.com/watch?v=qRAR4XsG0yI&feature=emb_logo

Recommend Sites / Blogs / AU Classes

https://blogs.autodesk.com/inventor/2020/11/03/autodesk-university-classes-for-the-building-products-custom-fabrication-industry/?fbclid=IwAR1DdKOqsuFpeMugQZh_K0v_K5-8JfZVt8XtiQPl5JDJXS0-5fTK4qsSvFw

http://help.autodesk.com/view/INVNTOR/2021/ENU/?guid=GUID-AF41FA87-7588-4698-9C41-756A01EBE7F4

http://help.autodesk.com/view/INVNTOR/2021/ENU/?guid=GUID-CEB8F9D8-C6DB-4BBC-A034-8BFDC8385D0C

https://www.autodesk.com/autodesk-university/au-online?query=AnyCAD&page=1

https://www.autodesk.com/autodesk-university/class/AnyCAD-and-Exchangeability-Inventor-2019#video

https://www.autodesk.com/autodesk-university/class/Using-new-Autodesk-workflows-Inventor-and-Fusion-360-Interoperability-2017

http://help.autodesk.com/view/INVNTOR/2021/ENU/?guid=GUID-26DF42BA-E48E-4F9E-B5D6-7440F87C7682

http://help.autodesk.com/view/INVNTOR/2021/ENU/?guid=GUID-F9115B84-788B-4069-9134-8509FB3108CA

http://help.autodesk.com/view/INVNTOR/2021/ENU/?guid=GUID-AEC4680D-6E88-4C0A-B921-058D0A63042A