Inventor: Back to the Basics - MFG462066

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EXPERT HELP IS HERE

Get help for training, software development, customization, and more.

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This class will be an introduction or reintroduction to Inventor. It will also go into general detail about a lot of the common issues that come up on the Inventor Forums. I understand that generally there are more intermediate and advanced Inventor classes at AU, however sometimes you need to go back to the basics .. and introduce/reintroduce people to some of these features they might not know or understand. Whether it's how to find them, or how to use them.
At the end of this class, you will a better understanding of:

- Gain a basic overview of the homepage and application options
- Get an overview of: IPT, IAM, IPN, Weldments, Sheet Metal templates, Styles Manager and iProperties/Parameters
- Gain an overview of AnyCAD, iLogic
- Learn where to go for help: knowledge network, forums, blogs
The Beginning
When downloading/installing Inventor use AVA (Autodesk Virtual Agent)!

https://ava.autodesk
Homepage
Homepage
Homepage
Homepage
Application Options
Application Options

2019 and newer

2018 and older
Application Options

General Tab Knowledge Network Link

Set your User name here

Set your Font and Font Height from here

Notes:
You can save your application options by exporting them (saving). You can then import them each year or prior to other PCs.

Turn on and off your homepage from here. You can also set how many recent documents (Inventor 2017 or newer) you see on it.

Show ToolTips was removed in 2018
Application Options
Autodesk has introduced a new Spell Check feature with the 2019.2 Enhancement!
Application Options
Application Options
Application Options

- 2019
- 2018 and older
Application Options (2020)

Colors (started in 2019)

Section Capping Plane Texture
Application Options (2021)
Application Options

Set your default 3D model's view setting.

Display

Visual Style

- Shaded with edges
- Object Shadows
- Ambient Shadows
- Ground Shadows
- Ground Reflections
- Ground Plane
- Textures On

Appearance Transparency

Enhance Appearance Transparency

Initial
Increase

Projection
Application Options

Hardware

- **Quality**
  - Use the setting for the highest quality realistic visualization.

- **Performance**
  - Use this setting when performance is desired over realistic visualization such as in modeling.

- **Conservative**
  - Use this setting for conservative graphics hardware use with Inventor.

- **Software graphics**
  - Use only for systems with unrecognized graphics hardware or when graphics hardware does not support desired functionality.

Diagnostics

Prompts

- **Prompt Text:**
  - A document server is not available for the given file. This... OK
  - A grounded component is selected to move. Would you like... Yes
  - A material or appearance with the same name exists in... OK
  - A Sketch Block cannot be created from portions of a Pat... No
  - Access Option Change: OK
  - Activating this representation requires full loading of the... Yes
  - Adding this constraint will over constrain the sketch... Cancel
  - Adding the constraint will over constrain the sketch... No
  - Adding this dimension will over constrain the sketch... Yes
  - Additive features are not supported in multi body feature... OK
  - An error was found during processing. It will be... No
  - An expression was found in the selection. Capitalize... Yes
  - Any features dependent on this derived feature may be... OK
  - Are you sure you want to cancel the Check Out?... Yes
  - Are you sure you want to override the object in all... Yes
  - Are you sure you want to verify all positional constraints... Yes
  - Autodesk Inventor does not currently support DWF5/CIS... OK
  - Autodesk Inventor Fusion provides enhanced Solid Edit... OK
  - Bode cannot be selected for this command. Explore this... OK
  - Cannot find the data you're searching for... Cancel
  - Changes have been made to some assembly components... Yes
  - Changes to the Default Folders for Design Data, Temp... OK
  - Changing alignment for offset origin will break associ... No
  - Changing the feature type invalidates your selections a... Cancel

Select prompt(s) and right-click in Response or Prompt column to change them.

Design Doctor
- Do not show messages for pre-existing problems

Close, Cancel, Apply
Application Options

- Notebook
- Drawings

Show Preview As:
- Shaded
- Shaded
- Bounding Box

Show Preview As:
- All Components

Enable background updates
- Memory Saver Node

- Display model dimensions on view placement
- Center dimension text on creation
- Enable ordinate dimension geometry selection
- Edit dimension when created
- Enable part modification from within drawings

View Justification:
- Centered

Title Block Insertion:
- AutoCAD 2013

Dimension Type Preferences:
- By Standard
- Default Layer Style

Line Weight Display:
- Display Line Weights

View Preview Display:
- Show Preview As
  - All Components
- Section View Preview as Unlaid

Color:
- Text background
- Arrow
- Note highlighted
Application Options
Application Options: 2017.R3 and newer

Sketch R3
Application Options: 2018 and newer
Application Options

iFeatures
Assembly
Content Center
Templates
Templates
Templates
Templates: Standard IPT
Templates: Sheet Metal
Templates: Assembly
Templates: Weldment
Templates: Weldment
Templates: Weldment
Templates: Weldment
Templates: Weldment
Templates: IPN
Templates: IDW
Templates: DWG
Templates: Environments

2021
Templates: Environments

2020
Templates: Environments

2018.3.2
Templates: Inventor Studios
Templates: Tube and Pipe

For more information on Tube and Pipe check out the following class

AUTODESK UNIVERSITY 2016

PD15320 - Increasing the Volume with Inventor Tube & Pipe

Chris Berner - CAD Department Supervisor, Powell Fabrication & Manufacturing, Inc.
Mark Lowester - Product Support Specialist/Help Desk Tech, Synergy Engineering/Synergy Solutions

Images courtesy of Powell Fabrication & Manufacturing, Inc.
Templates
Different Types of Views
Some Advantages of View Representations

- Use View representations to control the display state of an assembly during the design process:
- Turn component visibility on and off to simplify the current task.
- Assign a unique appearance to components. For example, a component can be opaque gray in one view and transparent blue in another view.
- Create display configurations that contain the appropriate component visibility, camera viewing angle, and zoom area to recall.
- Control sketch visibility of sketches controlled by the Object Visibility command. (A view representation does not capture the visibility state of sketches that are controlled in the browser.)
- Control work feature visibility.
- Save views of an assembly design in progress to preserve working ideas.
- Create views that aid in documenting the assembly. For example, a view with the cover turned off to see the components inside.
- Create unique views to filter the parts list in a drawing. For example, to document an assembly procedure.
- Simplify the task of creating positional representations by turning off all unnecessary components.
- Speed up drawing view creation by turning off components that are not shown. For example, internal components.
- Prepare the assembly for the creation of a Level of Detail representation before using the Copy to Level of Detail command.
- Prepare the assembly for creating a derived assembly by creating a view representation that includes only the components required for the derive process.
Templates
Positional Representations
Templates
Level of Detail

- Model
  - Assembly View
    - Assembly1
      - Relationships
      - Representations
        - View: Default
        - Position
      - Level of Detail: Master
        - Master
        - All Components Suppressed
        - All Parts Suppressed
        - All Content Center Suppressed
      - Origin
        - Preparations
        - Welds
        - Machining
        - End of Features
Templates
Level of Detail

Create a Level of Detail representation with a reduced number of components

Create a Substitute Level of Detail representation using Derive Assembly

Create a Substitute Level of Detail using Shrinkwrap

Create a Substitute Level of Detail representation using a part file on disk
Templates
Level of Detail
Templates
Level of Detail
Templates Pt. 2
Templates
Styles Manager
Templates
Styles Manager
Templates

Styles Manager

For more information about Styles and Standards: IM118896 – Inventor Basics Series – Taking Control of your Styles and Standards
Templates
Change Sheet Size
Templates
Sketch Symbols
Templates
Sketch Symbols
Creating, Changing and Custom Views
Templates
Placing a view

2018.2 and newer
Templates
Placing a view
Templates
Placing a View
Templates
Positional Views
Templates
Overlay View
IProperties and Parameters
iProperties
iProperties
iProperties

- General
  - Save Preview Picture
  - Active Component Use View on Save
  - Active Window on Save
  - Active Window
  - Import From File

- Physical
  - Mass: 0.86706 lbm (lbs)
  - Area: 25.00000 in²
  - Volume: 3.00000 in³
  - Center of Gravity:
    - X: 0.00000 in (Relative)
    - Y: 0.00000 in (Relative)
    - Z: 0.00000 in (Relative)
  - Principal Moments:
    - I1: 0.29353 in⁴
    - I2: 2.65058 in⁴
    - I3: 2.89018 in⁴
  - Rotation to Principal:
    - Rx: 0.00000 deg
    - Ry: 0.00000 deg
    - Rz: 0.00000 deg

- Material
  - Stainless Steel

- Density: 8.00000 g/cm³

- Requested Accuracy: Low

- Close | Cancel | Apply
Parameters

Displays a dialog box where you view and edit parameters. Dimensions and other measurements are parameters. You can create new or rename existing parameters. Use parameters in equations or to set dimension values.

You can also use parameters in logic rules, which can be used to drive changes to your model.

Press F1 for more help
Parameters
AnyCAD in Inventor

AnyCAD is a CAD interoperability solution included in Inventor that reduces the need to maintain multiple CAD systems and eliminates manual file translation and updates.

Design changes in the source CAD system get automatically updated in downstream data such as drawings and toolpaths, saving you valuable time and resources and minimizing costly translation errors.
AnyCad

The 'Reference Model' 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.

The 'Convert Model' option creates new Inventor files which are not linked to the original. Use this option if you plan to reuse and modify the model for a new design.
AnyCad

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iLogic
iLogic

iLogic functions

iLogic embeds rules as objects directly into part, assembly, and drawing documents. The rules determine and drive parameter and attribute values for your design. By controlling these values, you can define behavior of the attributes, features, and components of a model. Knowledge is saved and stored directly in the documents, like how geometric design elements are stored.
iLogic: Form
iLogic: Form
Where to go for Help
Autodesk Knowledge Network
Autodesk Knowledge Network

SEARCH

Refine by

Show me Most Helpful

Product
Inventor Products

Version
2017 SP
2016 SP
2015 SP
2014 SP

Knowledge Source
Product Documentation (90)
Features (35)
Technical Support (1)

To Create Holes

Hole has a specified diameter and counterbore depth. This...
Jul 25 2016

Hole Features

Keep the default value for this option, because the thread representation in drawings is generated correctly only when Tapped...
Aug 27 2014

Hole Quantity doesn’t work on revolved part

Users report that after editing the dimension style for the counterbore... dimension only to include quantity of...
Apr 27 2013

SEARCH

Refine by

Show me Most Helpful

Product
Inventor Products

iLogic

Version
2017 (07/23)
2016 (11/27)
2015 (12/23)
2014 (03/0)
2013 (0)/
2012 (0)

iLogic

Enables rule-driven design, providing a simple way to capture and reuse your work. Use iLogic to standardize and...
Jul 25 2016

iLogic

Aug 27 2014
Autodesk Community Forums

[Image of the Autodesk Community Forums webpage]

- **Find Answers**
  - Recently Solved
    - DXF File Conversion - Inventor Pro 2017
      - Posted to: Inventor Forum on 09/09/2016 by: david
    - Positional View Overrides Not Working
      - Posted to: Inventor Forum on 09/11/2016 by: KevinGreenhouse
    - Closing a Loop
      - Posted to: Inventor Forum on 09/11/2016 by: fiathm

- **Common Issues**
  - Problems Solved
    - Open Inventor 2013 .ipt in Inventor 2012
      - Posted to: Inventor Forum on 06/07/2012 by: kannenwick
    - Inventor 2013 Wish List?
      - Posted to: Inventor Forum on 09/02/2011 by: FNoop
    - Inventor on Windows 8
      - Posted to: Inventor Forum on 07/20/2012 by: Zoltan78
Twitter: @AutodeskHelp
THANK YOU!