

# MESA VISIONS

2015 Edition



**Specialization**  
Product Design & Manufacturing  
Building

**Value Added Services**  
Product Support Specialized  
Consulting Specialized  
Authorized Developer  
Authorized Training Center  
Authorized Certification Center

## The way you buy Autodesk software is changing

New perpetual licenses of most individual Autodesk products will not be available for purchase after Jan. 31, 2016.

### What's changing?

Autodesk is gradually transitioning new software purchases to subscription only options. In the first phase of this transition, new licenses of individual perpetual software products, (excluding Design and Creation Suites), will not be available for purchase after January 31, 2016.

After that time, those individual products will be available only for rent as a Desktop Subscription. Desktop Subscription is now available as quarterly, annual, 2-year & 3-year multi-year plans.

### What's not changing?

Customers that already have a perpetual license or who purchase a perpetual license through January 31, 2016, will be able to continue to use those licenses going forward.

Customers with Maintenance Subscription on those perpetual licenses will continue to receive corresponding benefits for as long as the Maintenance Subscription remains active.

### Why are things changing?

The majority of customers have already shown a preference for Autodesk Subscription options. This also aligns with industry trends for software delivery and cloud based offerings.

### What is Autodesk doing to ease the transition for customers?

- Providing adequate advance notice of upcoming changes to help give the time needed to assess options and make plans
- Offering Maintenance Subscribers the ability to continue to renew and receive/access the benefits of their Maintenance Subscription
- Providing the ability to lock in subscription rates by introducing multi-year Desktop Subscription options
- Providing Autodesk Account as the one place to manage all products, subscriptions and services
- Continuing to offer Autodesk Design and Creation Suites perpetual licenses

## Current promotions available for qualifying purchases until July 24, 2015

1

Save up to \$1,500 on new licenses with 2 or 3 yr Maintenance Subscription attached

Online rebates of up to \$1,500 for new perpetual licenses of eligible products when purchased with a 2 or 3 year Maintenance Subscription.

#### Eligibility requirements

Existing and new customers

#### NOW AVAILABLE

Save \$150 on select Autodesk LT family products with 1 yr Maintenance Subscription from June 1 - July 24, 2015

2

Save up to \$1,500 on 2016 Crossgrades to Suites & up to \$400 on Network Activations

Online rebates of up to \$1,500 for crossgrades to Suites and up to \$400 for Network Activations.

Rebates available for customers moving from a current individual perpetual product to a Suite (crossgrade), or adding network activation to an existing standalone license.

#### Eligibility requirements

Customers with current products on Maintenance Subscription, subject to crossgrade eligibility

3

Save up to \$600 on 1, 2, or 3 year Desktop Subscriptions for customers with eligible 2005-2015 licenses

Online rebates of up to \$600 for new annual, two-, or three- year Desktop Subscriptions for customers who have existing perpetual licenses of eligible 2005-2015 Autodesk products.

Must have one qualifying perpetual license for every Desktop Subscription license purchased.

#### Eligibility requirements

Customers with eligible products in releases 2005 to 2015

To see what savings you are eligible to receive, contact your MESA salesperson or call our toll free number at 888.301.6372

# AUTODESK® SUBSCRIPTION



## MAINTENANCE SUBSCRIPTION

### Overview

Maintenance Subscription is the only way to maintain and maximize your perpetual software license.

### What is it?

Maintenance with added benefits for your perpetual license.

### Who is it best for?

Customers who want long-term, ongoing access to their software with the added benefits of flexible licensing rights, access to multiple versions of their software, support, cloud services, and more.

### Where's the software?

Installed to and run from your desktop

### Is an internet connection required?

An internet connection is not required to run the software, but it is needed to access product updates, cloud services, and administrative tools in Autodesk Account.



## DESKTOP SUBSCRIPTION

Desktop Subscription provides access to desktop software at the lowest cost of entry, as a term-based license.

Desktop software with added benefits for a specified term.

Customers who want Autodesk software with more flexibility in the length of time they license their software, and the added benefits of flexible licensing rights, access to multiple versions of their software, support, cloud services, and more.

Installed to and run from your desktop

Yes, customers need to be connected to the internet the first time they access their Desktop Subscription software, and every 30 days thereafter. An internet connection is also needed to access product updates, cloud services, and administrative tools in Autodesk Account.



## CLOUD SERVICE SUBSCRIPTION

Cloud Service Subscription provides convenient access to tools that leverage the infinite computing power of the cloud.

Cloud services with added benefits for a specified term.

Customers who need access to cloud-based software, services, and tools, allowing them to free up their desktops to complete more critical tasks.

Hosted in the cloud and accessed via the internet; thin-client download may be required

Yes, cloud services are hosted in the cloud and customers must use the internet to access them.

Contact your MESA salesperson at 888.301.6372 to find out what option is right for your company.



### **We are pleased to announce MESA U 2015!**

*Date: Thursday, November 19th from 8am to 4:00pm*

*Location: The RLA, Cranberry Township PA*

*New class descriptions and schedule coming soon!*

Our goal is to provide our customers with training in areas that will make them more efficient with Autodesk software!

## **See What's New in the Autodesk 2016 family of products!**

In the next six pages, we highlight some of new features in the nine most commonly used Autodesk products by our customers. Hopefully you will see something that will save you time or a new product that can help you grow your business.

*Look for an announcement about our 2016 Roadshows soon!*





# AUTODESK® VAULT 2016

## New Copy Design Interface

Copy Design has a brand new interface! The main grid displays the current configuration settings, the new file name, and new Copy Design specific values like Component ID and Component Quantity. In addition to the main grid, there are panels to help you see alternate views of the data being copied, find specific source components, change the part number settings, or get an overview of the results.

**Vault 2016 also includes new Flexible Configurations!**

- Copy multiple file sets
- Referenced-based copy
- Replace with pending files
- Folder-based copy workflow
- Support for circular references

Old Name	New Name	Prefix	Base No...	Postfix
332-932.iam	332-932-001.iam		332-932	-001
60001-761.ipt	60001-761-001.ipt		60001-761	-001
932-04-01.iam	932-04-01-001.iam		932-04-01	-001
932-06-08.iam	932-06-08-001.iam		932-06-08	-001
932-18-04.iam	932-18-04-001.iam		932-18-04	-001
932-22-01.iam	932-22-01-001.iam		932-22-01	-001

## Write-back Item Properties

- Write-back item properties to design files
- Include item number, revision, descriptions, and other properties
- Execute from CAD, Vault Explorer, or Job Processor

Property	Success	Original Value	New Value	Reason
File Property: Description	✓			Successfully updated from Vault Item property 'Description (Item.COY)
File Property: Part Number	✓	100001	Suspension Assembly	Successfully updated from Vault Item property 'Number'
File Property: Description	✓			Successfully updated from Vault Item property 'Description (Item.COY)
File Property: Part Number	✓	100001	Suspension Assembly	Successfully updated from Vault Item property 'Number'

**Base Seat**

ADSK-00000001

## Configurable BOM Row Properties

- Define custom row properties and map values from CAD
- Add new properties such as item & unit quantity to grid
- Edit properties directly inside in the BOM grid

**Customize Fields**

Select available fields from: Bill of Material Fields

Available fields:

- Item ID
- Group Type
- Item Qty
- Position Type
- Production Relevant
- Row Type
- To be ordered before
- Unit Qty

Show these fields in this order:

- Number
- Row Order
- Position Number
- Quantity
- Title (Item.CO)
- Revision
- Latest Obsolete
- Status
- On/Off BOM Row

Number	Row	Position N.	Quantity	Title (Item.CO)	Re.	State	Row T.	BOM De...	Procure...	Vendor
VMG-300149	-	-	-	Schleifeinheit rechts	A	Work in Progress	-			
EHT-ENG-000440	1	5	1 Each	5 HP MOTOR	A	Work in Progress	CAD	To be pu...	OTS	
EHT-ENG-000449	2	4	2 Each	Lagerbock	A	Work in Progress	CAD			
EHT-ENG-000450	3	3	2 Each	Lagerung	A	Work in Progress	CAD			
EHT-ENG-000451	4	1	1 Each	Abdeckung rechts	A	Work in Progress	CAD			

## AnyCAD Support

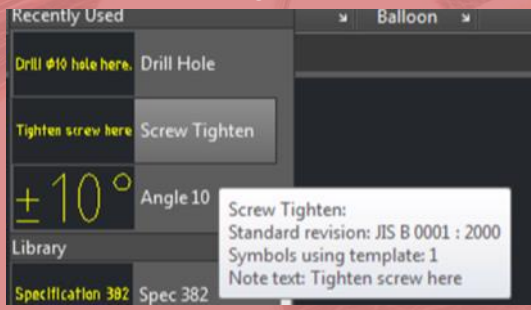
When pairing Inventor's new 'Reference Model' option with Vault 2016, you can then check-in the assembly by carrying over the native files; not the translated versions. Within Vault 2016, you can perform many of the same actions on 3rd party data as you can with native Inventor files. File properties can be edited and you can also designate categories, apply lifecycle controls, and assign items to 3rd party files, so they can be easily managed alongside all your other product data.



# AUTODESK® AUTOCAD® MECHANICAL 2016

## Note template symbol gallery

Recently used note templates, previews of each note, and tooltips provide a visual reference for selecting notes to be used in the design.



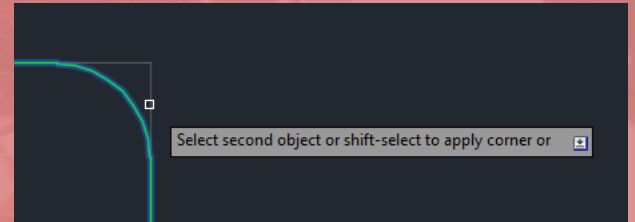
## Calculate total mass in BOM

Automatically create appropriate dimensions based on the geometry. Pass the cursor over selected objects to preview.

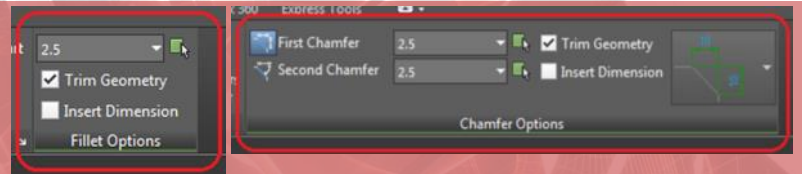
Item	Qty	Name	Description	Mass	Total Mass
1	1	CHAMFER	CHAMFER	25.000	25.000
2	1	STROKE	STROKE	25.000	25.000
3	1	JOINT	JOINT	25.000	25.000
4	1	LEVER	LEVER	25.000	25.000
5	1	CLAMP	CLAMP	25.000	25.000
6	1	CLAMP	CLAMP	25.000	25.000
				100.000	100.000

## Command previews

Preview chamfers, fillets, and offsets as you select the objects that will be used in the command.



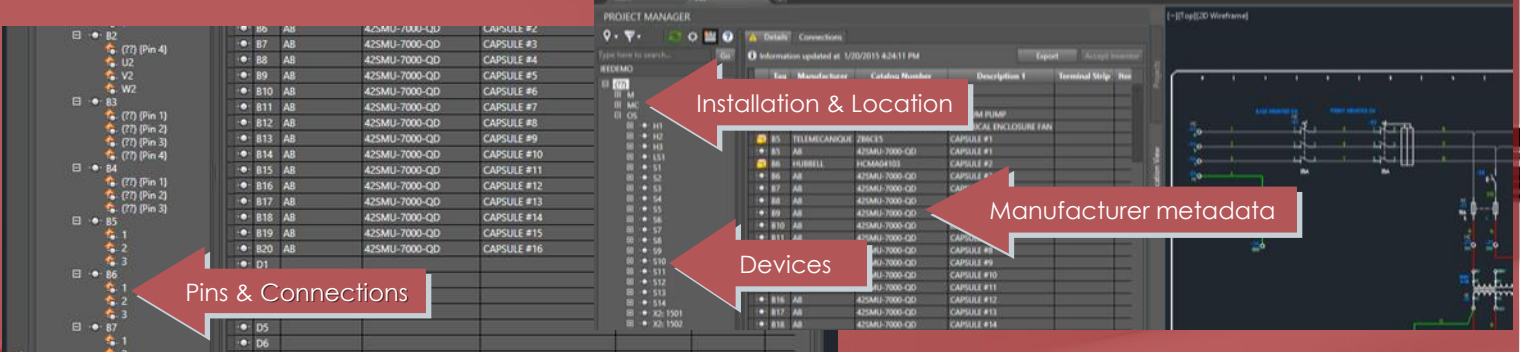
Contextual tabs for chamfer and fillet View and modify parameters using the new ribbon contextual menu for fillet and chamfer properties.



# AUTODESK® AUTOCAD® ELECTRICAL 2016

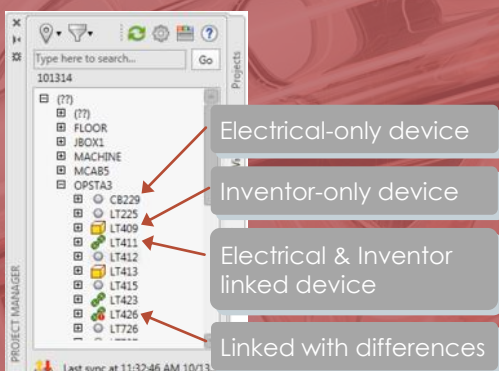
## Location View

The first major change is the introduction of a view that shows the locations, installations, and devices within your project immediately. This view enables you to easily find devices, and quickly navigate to that graphical representation within the drawings.



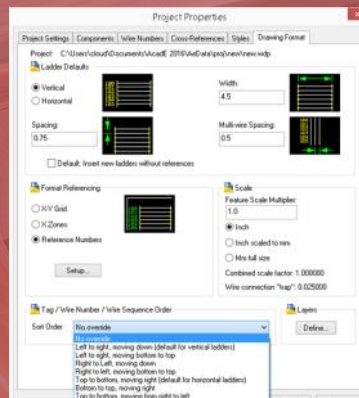
## Intelligent Design State Information

Now users in both Electrical and Inventor are provided with a means to understand differences between the products through easy-to-interpret symbols inside the new interface.



## Intelligent Default Sequencing

In AutoCAD Electrical 2016, the default sequence of connected devices can be configured to match tagging and wire numbering behavior so the user no longer needs to manually specify the direction sequence.



## Feature Enhancements

- Linked component filtering
- Panel rating defaults added
- Parametric comp. editor
- Multicopy circuit



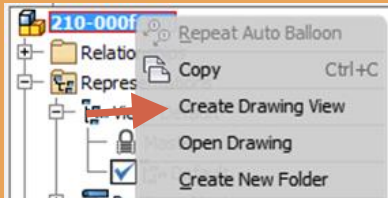




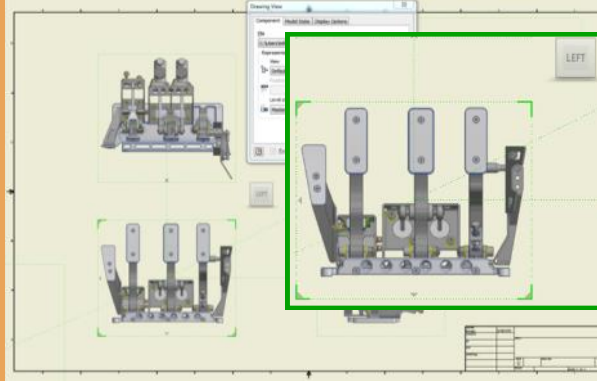
# AUTODESK® INVENTOR® 2016

## ► Drawing Environment

- Create drawing in 3D model
- Create drawing views using the View Cube
- Real-time dynamic text preview



- Component transparency

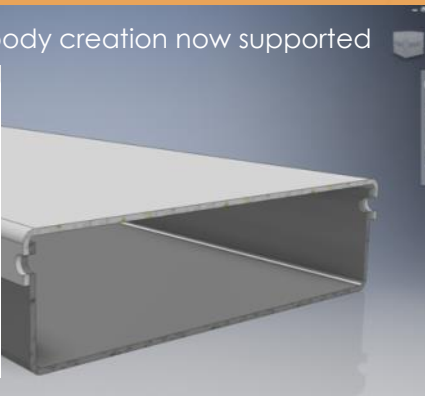
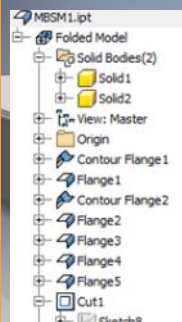


Text formatting enhancements:

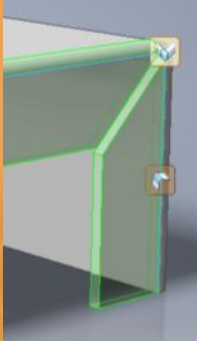
- Copy/Paste from Word
- Strikethrough

## ► Sheet Metal

- Multi-solid body creation now supported



- Native zero radius bends

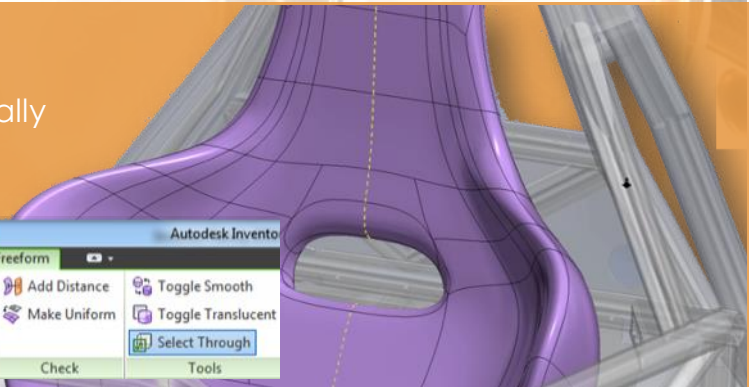
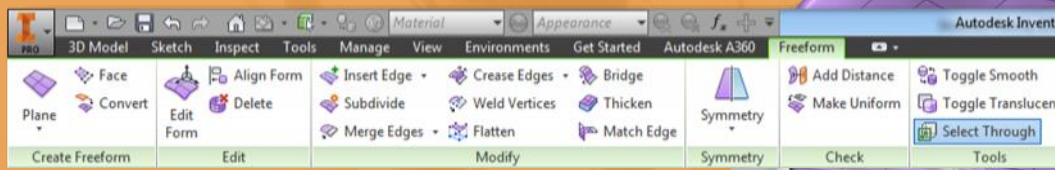


- Features supported with Multi-solids:  
Flange, Corner, Hem, Bend, Cut, Fold, Rip, and Punch

- Automatic Thickness detection on Sheet Metal conversion

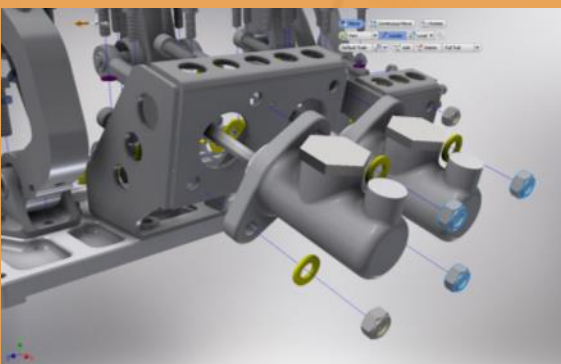
## ► Freeform Modeling

Intuitive and easy-to-use, Freeform surfaces are smooth (G2 continuity), watertight and geometrically accurate, and can be combined with powerful Inventor hybrid modeling workflows



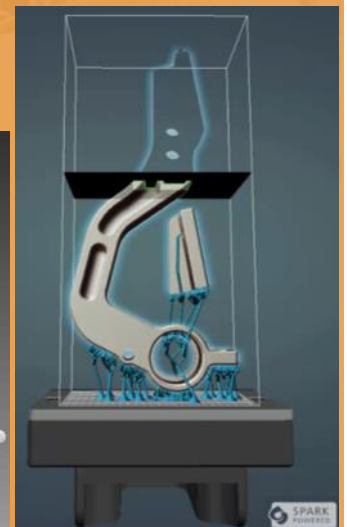
## ► Presentations

- Modernized manipulator
- Component filters
- Re-associate Design View Reps



## ► Advanced Manufacturing

- Over 20 printer options
- Prepare model for 3D printing
  - Position
  - Scale
  - Partition
- Print Studio





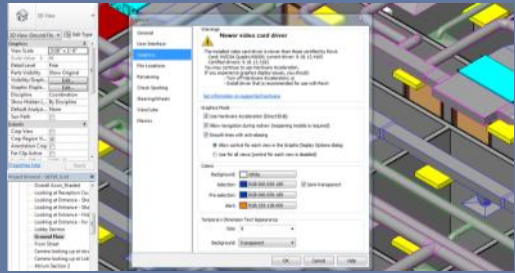


# AUTODESK® REVIT® 2016

**Revit Now Includes Tools for  
AEC, MEP, and Structural!**

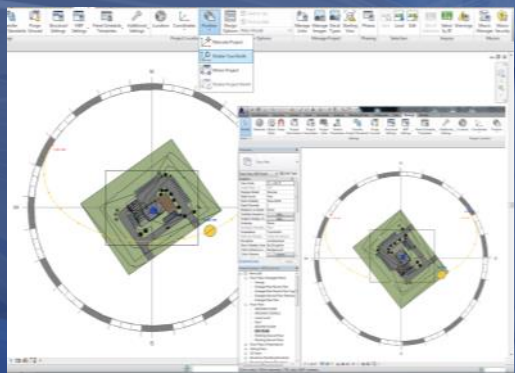
## ► Progressive Display

This feature enables you to navigate the model smoothly and continuously, panning, zooming, and orbiting around the view without waiting for the software to finish drawing elements at each step.



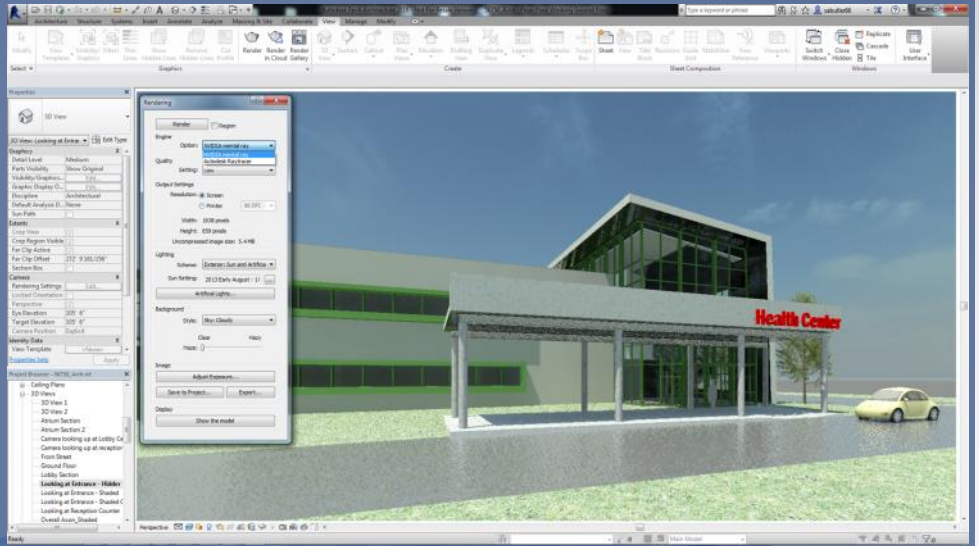
## ► Rotate Project North

In addition to rotating model elements, this tool also rotates view-specific detail elements, including text notes, detail lines, filled regions, revision clouds, etc.



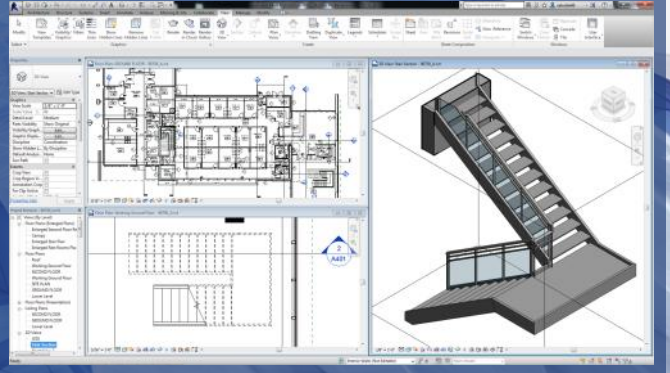
## ► Rendering Enhancement

When rendering a static 3D view, you can now choose between two rendering engines: NVIDIA® mental ray® and Autodesk® Raytracer.



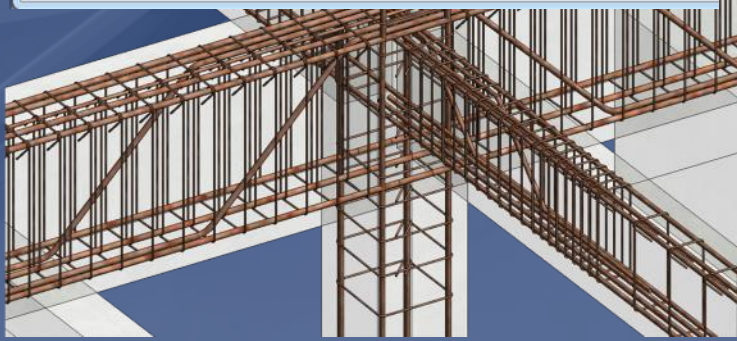
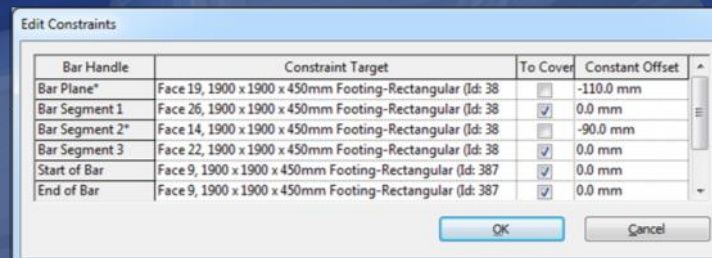
## ► Selection Boxes

To more efficiently document a model, you can now quickly isolate selected elements in an unobstructed 3D view and visualize context within that model.



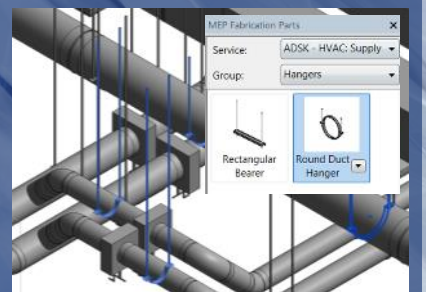
## ► Rebar Constraint Improvements

In this release there are a number of enhancements of the Rebar Constraints dialog like: interactivity with a view, graphical selection, constraint to sloped faces and offset to covers.



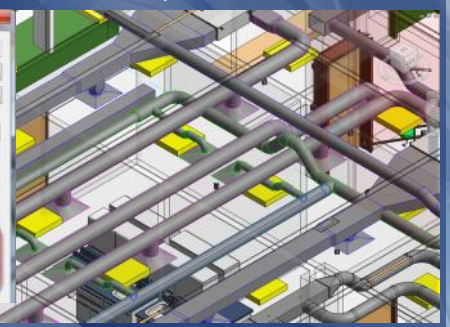
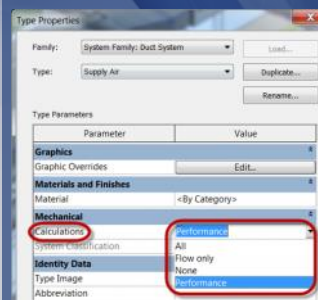
## ► Hanger Elements

Revit 2016 enables hanger placement along fabrication segments and are sized automatically to fit the duct, pipe, or cable tray



## ► Calculation Options

To improve performance while working with most duct and pipe systems, a new setting called Performance, has been added to the Calculations drop-down.

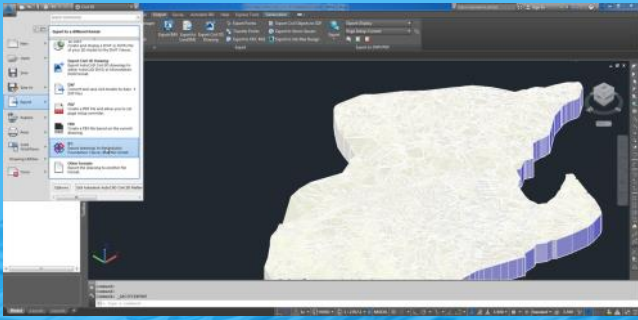




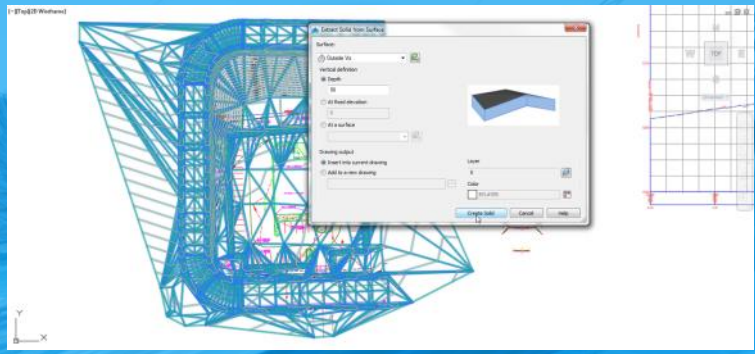


# AUTODESK® AUTOCAD® CIVIL 3D® 2016

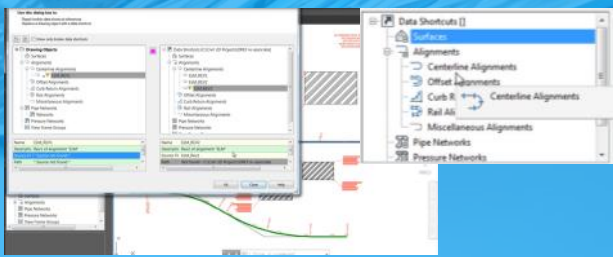
- Import and export AutoCAD® solids to Industry Foundation Class (IFC) files.



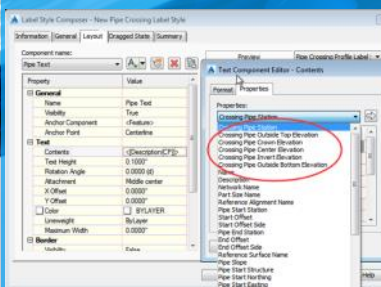
- Create Civil 3D surfaces from point cloud data



- Manage Data Shortcuts command to repair broken data shortcuts and to replace drawing objects with data shortcuts.



- Crossing pipe labels

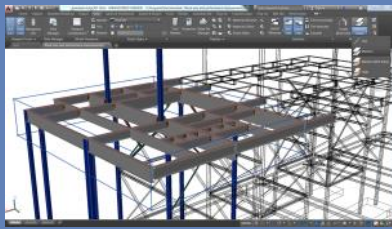


- Control the direction of cross-section views

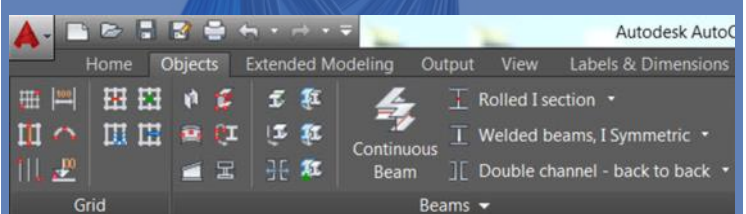


# AUTODESK® ADVANCE STEEL 2016

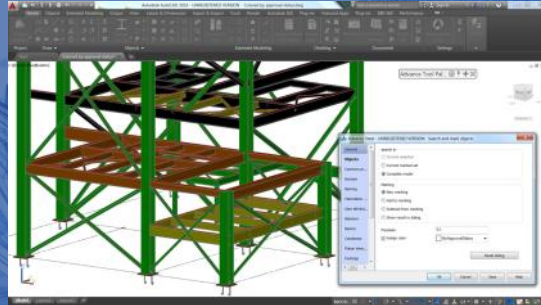
- New work area concept
- Display selected elements
- User-defined work area
- Outside objects displayed with lower LOD
- Default for small elements
- Enhanced performing model view display



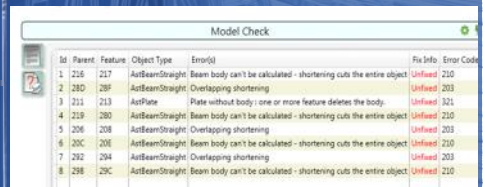
- Continuous beam creation



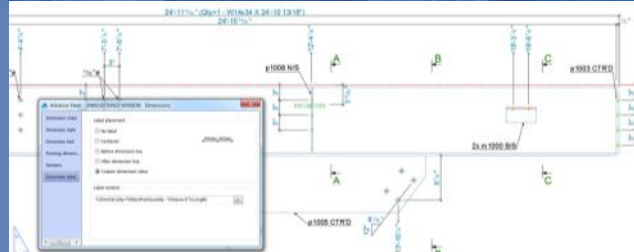
- New Approval status
- New object property for assemblies
- Works with automatic connections
- Status associated to colors
- Customizable approval status



- New model check dialog
- Audit & technical checking results in a notification dialog
- Fix all or selected issues option
- Search for checking results
- Better detection of issues on plates and folded plates



- Labels in dimension lines
- Definition per dimension line
- Different placing options
- Huge set of tokens
- Manual editing possible
- Overwrite dimension
- Dimension prefix or suffix



- New moment connection options that improve efficiency



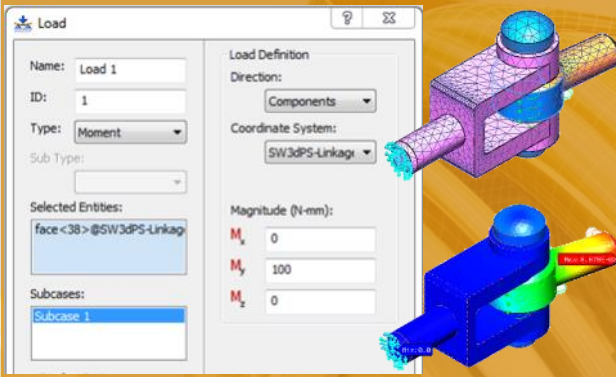
The benefits of using Advanced Steel cannot be summarized as a part of a newsletter... contact your MESA salesperson or call us at 888.301.6372 to arrange a demo.



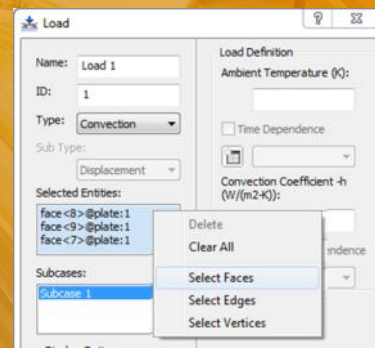


# AUTODESK® NASTRAN® IN-CAD™ 2016

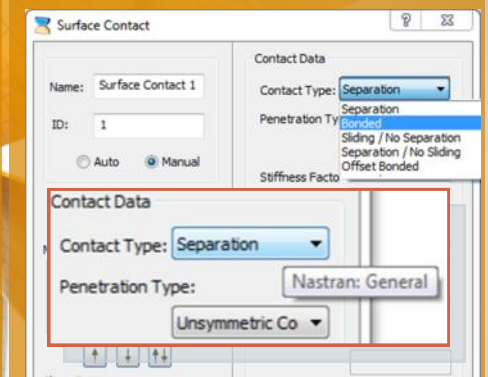
► The Moment load can now be defined on solid element faces



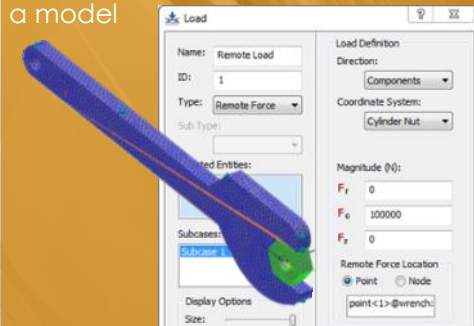
► Selection Filter for geometry lets you pick faces, edges, or vertices



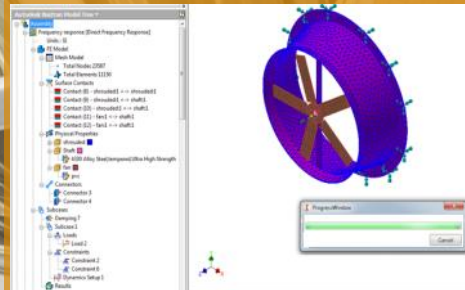
► Updated Contact Terminology to be more consistent with Inventor



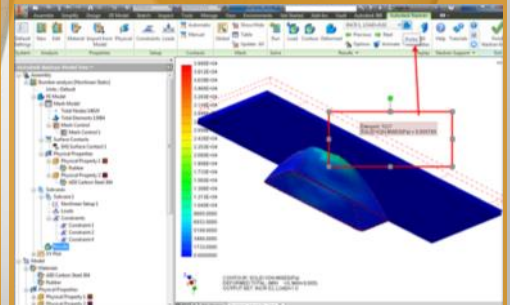
► Remote Force Load can be applied from any point in the space, not just on a model



► Automatic Contacts created with Inventor assemblies

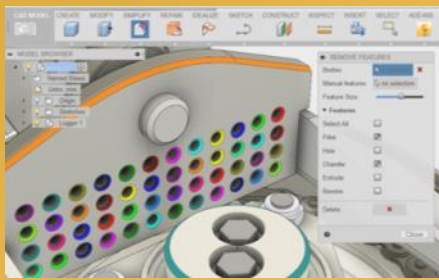


► Results Probing functionality added to ribbon

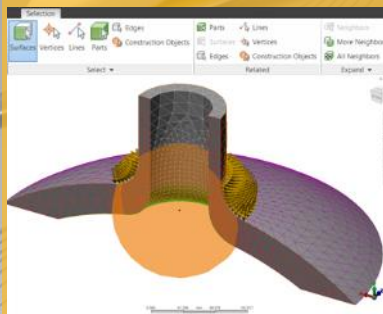


# AUTODESK® SIMULATION MECHANICAL 2016

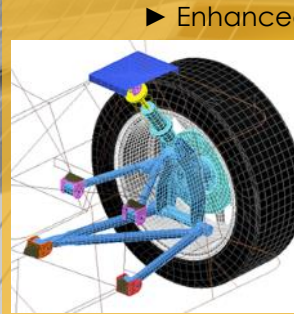
► Create, modify, simplify, and repair CAD files in many formats



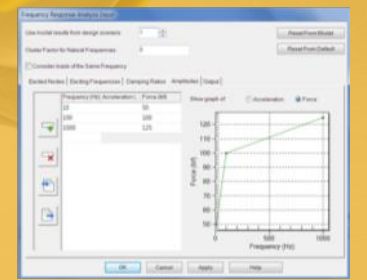
► FEA Editor Enhancements



► Large Model Performance

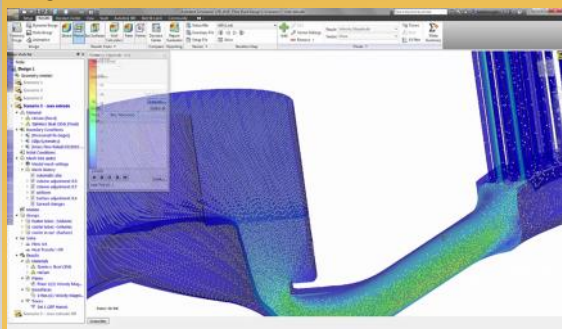


► Enhanced Frequency Response Setup

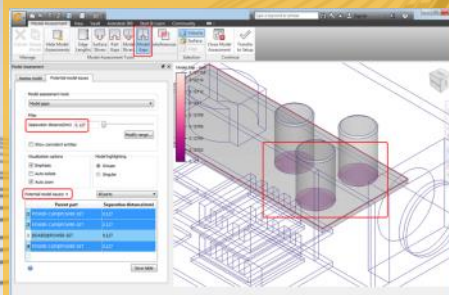


# AUTODESK® CFD 2016

► New graphics engine delivers significant large model performance improvements



► The Model Assessment Toolkit detects and displays potential geometry faults



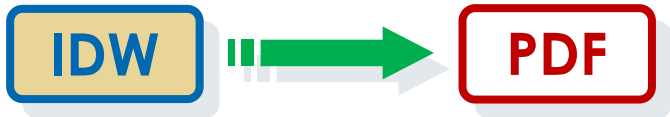
► Rapid Model De-featuresing & Simplification with Intuitive Simulation Feature Creation





# Using iLogic to Automate “save file as”

By Steve Olson



Like many people who have used iLogic to configure parts and assemblies, I wondered how I could use the tool to improve productivity in other areas. Some time ago, a customer wanted STEP and IGES files of their models to post to their web site for customer consumption. They were outsourcing this task and the cost was substantial. I told them I should be able to write an iLogic routine that would duplicate the work that was being outsourced and using iLogic would not require any changes to the customer's current workflow. And I was able to write the code using iLogic in about 5 minutes.

In the following example, I wrote iLogic code to automatically save files in PDF format and to a location accessible to other users (like a network drive). If this was

a task users were expected to perform manually, it would be easy to forget. And if an older PDF was used instead of the most-current, well you know what can happen if the part was built with the wrong drawing.

Using iLogic to automate repetitive tasks can be as simple as the example shown here or it can be used to configure a more complicated process. Whether the task is simple or complex, iLogic can be used to automate repetitive tasks to reduce errors, make users more efficient and in the end, add to your company's bottom line.

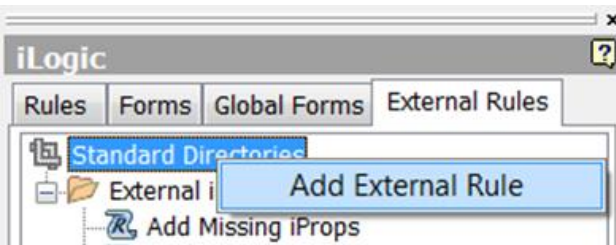
For those who aren't familiar with iLogic, MESA offers a one-day class to get you started.

## Description

The first five lines of this rule are designed to determine where the PDF should be saved. Once that is done, the next group of statements determines if it is an existing directory. If that directory does not exist, the rule creates it. When I was creating this rule, I had varying results before this line was added. The last statement is the one that actually saves the document. It is worth noting that this will work with several different formats. The user just has to change the extension to a valid “Save As” or “Export” extension for Inventor.

## Setup

1. This rule will work best as an External Rule, which means that it will not be stored in a single design file. Being an External Rule will give users the ability to run this on any Inventor file. The External Rule's text can be copied and pasted from the text to the right or downloaded directly from [here](#).



2. Set the rule to run whenever a file is saved. To do this, open your drawing template (.idw), then go to the Manage tab, and select Event Triggers.

## Text of the Rule (which will be posted on our website)

```
'Gets the Workspace Path
WorkspacePath= ThisDoc.WorkspacePath()

'Gets the Length of the WorkspacePath String
WorkspacePathLength = Len(WorkspacePath)

'Gets just the Path of the file
PathOnly = ThisDoc.Path

'Removes the Workspace Path from FullPath
DirectoryPath = Strings.Right(PathOnly, PathOnly.Length-WorkspacePathLength)

'Sets the Directory that the PDF should be saved in
PDFPath = "C:\PDFs\" & DirectoryPath

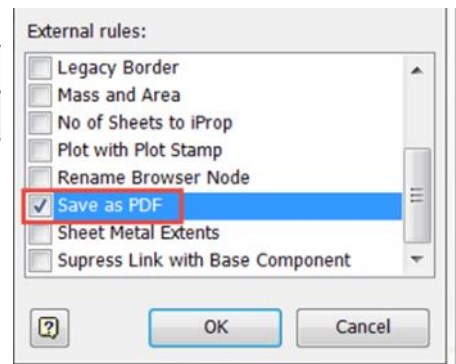
'Checks to see if that directory exists, if not, it is created
If(Not System.IO.Directory.Exists(PDFPath)) Then
    System.IO.Directory.CreateDirectory(PDFPath)
End If

'Saves the PDF in the desired location
ThisDoc.Document.SaveAs(PDFPath & "\" & ThisDoc.FileName(False) & ".pdf", True)
```

3. Select “After Save Document” and then you will be able to pick the “Select Rules...” button.



4. Select “Save As PDF” and press “OK”.



5. Select “OK” and you are ready to go!