In-Depth Tips and Tricks for Advance Steel
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**Learning Objectives**

- Use little-known features that will improve your productivity in the modeling environment
- Create and manage the documentation more effectively
- Use the new features to maximize efficiency
- Understand efficient practices for workflows with other Autodesk software

**Description**

In this class we will take an in-depth look at saving production tips and techniques for Advance Steel.

**Your AU Expert(s)**

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Use little-known features that will improve your productivity in the modeling environment

Inserting columns in a continuous way

The ability to create multiple columns in a continuous command makes it easy to create multiple steel columns at once.

You can change any of the element properties within the dialog box once you interrupt the command with Esc.

Stretch multiple columns using their grips

You can stretch multiple columns without doing it for them all individually. Select the columns to be stretched, then hold down Shift and select grips so that they are highlighted, release Shift and select a grip as the base grip by clicking the grip and move it.
Creating model views & level views

If you want to limit what is on screen to just the relevant objects in the required area, you can create model views & level views in the Project Explorer. Then just click the light bulb icon in front of the name in the Project Explorer to toggle it on.

Inserting columns between two levels

By using the work-planes in the Project Explorer, once you can selected a work-plane for the upper Level and another work-plane for the lower Level, columns get automatically inserted between these two levels in the 3D model.
Displaying several model views

You can select more than one light bulb icon in front of the model views in the Project Explorer to get several model views being displayed at the same time.

Inserting beams in a continuous way

The ability to create multiple beams in a continuous command makes it easy to create multiple steel members at once.

You can change any of the element properties within the dialog box once you interrupt the command with Esc.
Mid Between Two Points osnap

In order to find the mid-point between two points you would need to use the “Mid Between Two Points” osnap point.

Quick Select

The Quick Select command creates a selection set by filtering by object type and property. For example, you can select all your Advance Steel 3D model and the Quick Select can help you select Advance Steel objects or AutoCAD entities such as construction lines.
Connection Vault Favorite Group

You can place the connections that you are using the most often in the Favorites category. Just click on the star which appears behind a connection in the Connection Vault.

Then you get your preferred steel connections also accessible from the Favorites category.

In case you’d like to remove one the connections from the Favorites group, just click the red cross.
Transfer properties from a joint to another one

With the “Transfer properties” button available in the “Extended Modeling”, you can transfer properties from an automatic connections to other similar connection(s).

Joint in a Joint Group

When you use the “Create by template” commands, the joints created are all independent of each other. Sometimes, you might need to link a number of joints together so that if one changes they all change together and continue to match.
Railing macro – move posts individually

You can move each post individually by entering a positive (or negative) value to “Post offset along rail axis” option.

Railing macro – extend with grip point

You can extend or shorten a railing by moving the ball grip at one of the railing ends.
Railing macro – add more profiles in the handrail macro

You can get access to additional profiles in the automatic handrail macro by adding a new entry in a specific Advance Steel dataset (AstorRules, table JointsGUIAllowedSections). Watch out this video if you want to know more about it: https://youtu.be/P46dpnzpAU8

Insert an elbow between two handrails

You can use the “Railing joint handrail” connection available in the Connection Vault, Miscellaneous category, to create an elbow between the rails of two different handrails.

Creating Quick Views

You can create quick views on individual objects or on a complete assembly or on a connection by using specific tools available in the Quick views category within the Advance Steel tool palette. Nota: you can press “All visible” icon to get the entire model being displayed again.
Search filter – search several model roles

When working on a structure you might need to locate various object based on specific properties. For example, you might want to select all the objects which have specific model roles.

Search filter – find the Master joint of a joint group

The Search filter tool can be used to search for steel connections with an option to find the master joint of a joint group.
Search filter – Find site welds in the model

You can use the Search filter to locate welds such as site welds in the 3D model.
Create and manage the documentation more effectively

Switch between Advance and User branch in the tool palette

You can easily switch between templates from the Advance branch and templates from the User branch with this icon.

Auto Bow Up on Anchor Plan drawing

You can get details bigger on your (anchor plan) drawing by modifying the view scale and changing the clipping values along X and Y.
Prototypes – icon for accessing them

You can open the sub-folder where are stored the prototypes by clicking the “Edit prototypes” button available in the Output ribbon, Document Manager panel.

Selecting a label highlights the labelled part

If you select a label on a drawing, you will notice that it automatically highlights on the drawing part(s) labelled with this label.
Inserting manually a customized label

When inserting a manual label, you can press C first and get access to the list of label definitions to specify which configured label definition you would like to apply for this label, or create your own label definition.

Command: AstM4CommDetInsertAnno
Select object you want to label (Change label, Multiple selection): C

Know which prototype has been used

An easy way to find which prototype has been used is to look on the Document Manager, the information is available in the “Prototype” column.
Replacing the used prototype by another one

You can change the used prototype by another one with the “Change prototype file” command available in the “Labels & Dimensions” tab.

Customizing the shop drawing name

The Drawing Process Manager offers the possibility to customize the shop drawing name.

Defaults for shop drawings creation

You can decide if you want to create shop drawing or not by modifying some defaults available in the Management Tools under the “Drawing – General” category.
NC settings – Modifying the NC file name definition

In the “NC Settings” dialog, you can specify the file name extension (e.g. *.nc1).

NC settings – Modifying the DXF file name extension

In the “NC Settings” dialog, if you remove the file name extension, files will be created as *.dxf.

Getting the Model Role information in a BOM

You can customize a BOM template and get Model Role information being displayed in the obtained BOM. Watch out this video for more detailed information.
Creating a Query and using it to generate a BOM

The Project Explorer offers the possibility to create a Query (e.g. search for Advance Steel objects which model role is “Column”).

Then you can use this Query to generate a BOM only for elements selected by this Query.
Use the new features to maximize efficiency

Rollover tooltip customization

You can have a more direct access to the object properties by getting rollover tips when the mouse cursor hovers over an object in the 3D model. You can control the properties which are displayed by going to the Customize User Interface (CUI) editor. There it is possible to define displayed properties which can be different depending on the object type (beam, plate, bolt, etc…).

Colorize model according to member fabrication & shipping status

You can create your own queries and use the Search tool to find specific objects according to your own criteria and get those elements being automatically isolated and colorized in the Advance Steel model. By using this tool, you can identify member locations, which have those properties.

This helps the user to visualize the fabrication and shipping status of the current project.
View native drawings in AutoCAD

The Advance Steel 2017 object enabler gives you the opportunity to open any Advance Steel 2D drawings in plain AutoCAD 2017 or AutoCAD LT 2017.

Dynamo Extension for Advance Steel

The Dynamo Extension for Advance Steel is a visual programming extension that helps structural engineers drive the geometry and behavior of Advance Steel elements from Dynamo.
Snap points on anchors

You can snap to specific snap points on anchors (when they're displayed with their exact representation) on general arrangement drawings (like thread length, grouting, set height).

Grid balloon placement control

You can control the grid balloon placement by “breaking” the grid extension line, and offsetting the position of the balloon and part of the grid extension line to the sides.
Get background mask on drawings

Advance Steel users can set a background mask so that dimension text and label text stays visible on drawings.

User-defined formulas in BOMs

You can include formulas such as addition, subtraction, multiplication and division in your BOMs template. All used tokens in a line can be part of the calculation. The result is then automatically calculated and appears in the obtained BOM. This helps you to add, for example, an extra 5% to your bolt quantity to be shipped at site.
Understand efficient practices for workflows with other Autodesk software

Link Advance Steel - Revit

Structural engineers who use Revit software can better coordinate their work with steel detailers using Advance Steel software thanks to the Advance Steel Extension.

You can install the Advance Steel Extension for Revit 2017 from the Autodesk App Store here.

Since the 2017 release, users can insert steel connections in their Revit model thanks to the Steel Connections for Revit extension (which can be downloaded & installed from your Autodesk Account).
Link Advance Steel – Robot Structural Analysis Professional

With the Robot – Advance Steel link extension (which can be downloaded & installed from the Autodesk Exchange Apps) available for Robot, users can import, export and even synchronize changes between the two software.

Here are the options that are available in Robot Structural Analysis Professional:

![Integration with Autodesk Advance Steel](image)

You can install the Robot-Advance Steel Link 2017 from the Autodesk App Store [here](#).

![Robot-Advance Steel Link 2017](image)

Here are the tools that are available in Advance Steel to import/export/synchronize a SMLX file with Robot Structural Analysis Professional:

![Advance export](image)
Link Advance Steel - Navisworks

You can export 3D models as DWF files to open in Navisworks by using the “Export to Navisworks” icon available in the “Export & Import” ribbon.

The file includes object properties that identify the section sizes, etc…

Once scheduling tasks and rules are assigned to objects in your design, Navisworks will allow you to perform a 4D simulation of your project, complete with a Gantt chart, which provides a visual representation of your schedule.
Exporting an Advance Steel model to A360 Viewer

You can export an Advance Steel 3D model to the A360 Viewer which is an online viewer.

Using the 3D viewing and navigation tools, you can navigate through the 3D model.

Structural properties from Advance Steel are also exported to the A360 Viewer allowing to review structural shape sizes and weights, bolt lengths and diameters and more.
Viewing & Sharing an Advance Steel 3D model on BIM 360 Team

You can upload the native DWG file(s) of your Advance Steel model and/or drawings to BIM 360 Team. BIM 360 Team provides a centralized platform for communication, file sharing and design reviews for design teams and their project stakeholders.

BIM 360 Team now allows to compare changes between different versions of the same Advance Steel 3D models.