Advance Steel Tips, Tricks, and Workflows You’ll Want to Try at the Office

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Learning Objectives

- Discover little-known features that will help you speed up the 3D modeling phase
- Learn how to create and manage documentation more effectively
- Learn how to use some of the new features from recent releases
- Understand efficient practices for BIM workflows with other Autodesk software

Description

This class will present a variety of valuable tips, tricks, and workflows that will help you produce your work more efficiently when using Advance Steel detailing software.

Speaker(s)

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Discover little-known features to speed up the 3D modeling phase

User Interface

Start Tab

The Start Tab is filled with information and speedy ways for you to start new Advance Steel projects or edit existing ones.

If you don’t want the Start tab to display, just set STARTMODE to 0.
Quick Access Toolbar

You can easily set options (such as Layer Control or Match Properties) to display in the Quick Access Toolbar along with other frequently used tools.

Repeat Last Command

You can repeat the last used command, with the same parameters. This only works for commands from the Advance Steel tool palettes (not from the ribbon). Therefore, you can repeat commands found in the Connection Vault, the Advance Steel Tool Palette, the Drawing Styles and Processes palettes, or the BOM Templates palette.

After you finish and exit a certain command, you can repeat it with the same parameters, by just pressing the Enter key.

You can also type the command you want to repeat in the command line or access the last commands from the Recent Input menu.
Display tools

There are various tools to display (or hide) some parts from the 3D model.

**Project Explorer**

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.

![Project Explorer](image)

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.

**Showing welds and system lines in shade mode**

If you want to display welds and system lines in shade mode, you need to activate the default “Show welds and system lines in shade mode” which is available within the Management Tools (under General category). It is recommended to restart Advance Steel once this modification is done in the Management Tools.
Marking an assembly

You can use the “Mark main part of assembly” command to mark the main part from a specific assembly and its attached parts in specific colors.

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.

Remark: you can press “All visible” icon to get the entire model being displayed again.
Showing only selected assembly

You can pick any part of your 3D model and display what is shop-bolted or shop-welded with this part by using the "Show only selected assemblies" icon.

Center of gravity

The Center of Gravity point of an object can be found in the model by using the "Center of gravity and total weight calculation" command. As a result, an AutoCAD point is displayed in the model showing the center of gravity of that part.
Modeling Techniques

Creating a hole on the opposite face of a RHS

If you first place the UCS on the face where you want to insert the holes e.g with the “UCS at object” command, you can then use the “Hole” command and snap to the bolts located on the opposite face of the RHS.

Shortening a beam at UCS

If you place the UCS at the location where you want to apply the shortening, you can then use the “Shorten a beam” command to apply a shortening at the end of the picked beam along the UCS.
Concrete foundation dimensions

You can add additional section sizes directly in the properties dialog box, by clicking on the Section name.

Once you have entered different dimensions, these ones become available within the drop-down list:
Model browser

The Model Browser provides a complete control of all the elements of the model. You can open the Model Browser at any time to get up-to-date information on each object. The list of elements and their properties are displayed as a table. The set of displayed properties can be customized by adding or removing columns.

Where to find it

You can find the icon for the Model browser under the Project explorer or in the Advance Steel tool palette (Selection tab)

Edit element properties

If you select the Edit properties option, you can make changes in the Model browser and they are directly applied to your 3D model.
Insert (or remove) a column

You can insert (or remove) additional columns to get more information.

Find parts which don’t have a prefix

Insert a column and choose Naming > Single part prefix or Assembly prefix.

Isolate elements

To select several lines from the Model Browser, press and hold CTRL as you click the desired lines. You can then use the Isolate button to display only elements from the selected line(s), and then use Display all button to get everything being displayed again.
Assign a Material to a layer

Define a new Material

Display the Materials editor.

![Materials Editor]

Create a new Generic Material and give it a Name.

![Appearance dialog box]

You can choose a specific color or use a specific image (most file formats are accepted).

Material Attach

You can attach materials to layers by typing MATERIALATTACH. The Material Attachment Options dialog box is displayed.
Drag a material on the left onto a layer on the right.

Material Display

In the Visual Styles Manager, change “Material display” from “Off” to “Materials and textures”.

Remark: the material is applied to all objects on the layer whose Material property is set to ByLayer.
Numbering

Standard Part Template

You can create DWG file(s) containing your standard parts, and assign them a specific part number.

Then save your standard part models into folder ..\ProgramData\Autodesk\Advance Steel\2018\Shared\StandardPartTemplate\.

Open the Numbering dialog – and before running the numbering – go to the “Standard Part Template” tab which lists the standard part models linked to the current project.

Each standard part template can be used for the single part, assembly detection or both.
Learn how to create and manage documentation more effectively

Drawing presentation

Adding a scale

You would like to create a Plan view at scale 1:500 but the system only is set to go as high as 1:200.

Go to the Management Tools, then “Table editor”.

Select “Open installed databases” and open the AstorBase database. Then go to the “Scale” table and enter a new scale (you can copy-paste an existing one):
Transfer a dim style from a DWG file to another one

Here is a technique if you want to grab some dimension styles (BTW – it works also very well with layers) from another DWG file.

The easiest way is probably to use the Design Center.

Ctrl + 2 is the fastest way to get the Design Center being displayed.

Now you need to navigate to the DWG file which has the dimension styles which have everything you want.

As you can see, you can grab not only dimension styles but also things like blocks and layers, but here let’s focus on dimension styles.

Just pick the dim styles you want to select, and choose “Add Dimstyle(s)” in the contextual menu.

Now these dim styles should be available in your current DWG file.
Quick Select (e.g. changing the color for all bolts)

You can easily select e.g. all the bolts in a view on a drawing by using the Quick Select command and choosing the “Bolts” layer:

Then you can select “Advance Steel” properties in the contextual menu and change their color:
Using specific colors for parts on drawings

First, you should remember the color index number that you would like to use. For that just display the “Select Color” dialog in AutoCAD by typing _color in the command line.

![Select Color dialog](image)

In our example, we would like to have the visible lines of beams being displayed in color 102 on a General Arrangement drawing.

Go to the Management Tools, then “Table Editor” and open the database “AstorDetailsBase” located at C:\ProgramData\Autodesk\Advance Steel 2018\USA\Kernel\Data.
In this table you need to enter a new line (you can copy-paste an existing one, and modify it afterwards):

- **Key** = unique number in the list
- **RunName** = name which will show up in the drop-down list
- **Color** = the color index which corresponds to the color you want to use (102 in our case)

If you close the Management Tools and reload these modifications into Advance Steel, you should see this “Green 102” presentation available in the Drawing Styles Manager.
You can easily create a new Presentation rule (with the New button) and assign the “Green 102” to “Body visible” if you want to get visible lines being displayed in color 102 on the drawing.

If you use this “GREEN 102” presentation rule for “Beams” and “Mp – All” in your drawing style, you should get a drawing which looks like this:
Green frames around details

You can control the display of green frames around details on drawings with the “Toggle the display of green frames around details” command available in the Labels & Dimensions tab.

There is also a global default named “Show green frames in details” available in the Management Tools, under the Drawing – General category:
Move a view from a drawing to another one

Within the Document Manager, you can drag & drop a view from a drawing to another drawing.

Copy a view to another drawing / Move a view

Open the two drawings, select a detail (you can pick the green frame around it) from the first drawing, copy it (Ctrl+C) and then paste it to the second drawing (Ctrl+V).
Convert multiple DWG shop drawings to PDF file

In the Document Manager, you can select several drawings by pressing the Ctrl tab on your keyboard. Then click on the Add to batch plot icon located on the right of the Document Manager.

Select the Batch plot branch, and then pick “Choose a plotter” available in the contextual menu.
If you select PDF on the top, you can see that you can choose between “Single-sheet file” and “Multiple-sheet file” at the bottom.

Select “Single sheet-file and press OK two times, Advance Steel will take a few seconds for creating the PDF files automatically. By accessing the “Plot and Publish Details” dialog-box, you can find the exact path where the PDF files have been saved. As you can see, you get different PDF files, one file corresponding to one shop drawing.

Now if you’d like to have a single PDF file with all selected shop drawings on it, choose the “Multi-sheet file” option when printing the drawings to PDF. This creates one PDF file with the drawings that you selected in it.
Have a BOM per detail on a multi-drawing

You can use the “Insert a details list” command to get a BOM per detail on a shop drawing containing multiple details.

You will be prompted to select the view for which one you want to create the BOM.
BOMs

Create a BOM with concrete objects and their volume

To access the BOM Template Editor, click “BOM Editor” icon in the Output Ribbon.

Here you will find predefined templates for getting different types of reports such as Material list summary. You can copy an existing template and give it a new name.
To get concrete objects included in this BOM, right-click on the BOM template and select “Report Contents”. You can easily pick object types such as wall, slab, footing isolated, concrete beam and then click OK.

Don’t forget to save the customized BOM template.

To change the column title, right-click on the box and enter the new name.

To change intelligent text, right-click on the box and select Field Content.

You can simply browse the list of tokens or you can use the filter.

Advance Steel offers the ability to add a formula to a BOM report. What you get with “Formula” is this little menu on the top right which gives access to “Operands” and “Operators”.

Remark: you need to have “Weight” and “Density” being displayed (calculated) in one of the columns within the BOM.

To get the volume as a result in this column, it is going to be Weight divided by Density. You can see that it is updated when clicking OK.
Again, don’t forget to save the customized template and exit the BOM editor.

Once Advance Steel is restarted, you can display the BOM Templates tool palette, switch from Advance to User Branch, and have access to the customized template.

The obtained BOM now contains the concrete objects and reports the volume value thanks to the formula in the BOM template.
Creating a material list with W sections only

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

Then you can use this Query to generate a BOM only for elements selected by this Query.

In the BOM editor, select the BOM template that you would like to customize (e.g. Material list summary). Then make a right-click and choose “Report contents”. In the dialog box, just keep “Beams” as selected.

The BOM that you obtain should now only contains W sections.
CN data

With Advance Steel, you can automatically create the data needed to drive CNC machines.

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 created as *.dxf.
Saving an entire assembly as a SAT file

Click on the “Display objects connected in shop” button to get a specific and all its attached parts highlighted and selected.

You can choose to hide the other elements by reversing the selection and clicking the “Selected objects off” button.

In order to generate the SAT file just go to the “File” menu then “Export” and select “Other Formats”.

Specify the file name (you can just type the assembly mark). In the drop-down list, choose “SAT” as type file. Create the file by pressing the “Save” button and select the assembly with a window selection.

As a result, if you start with a new file and type “ASCIIN”, you can open the SAT file and see the result with all objects being automatically exploded to individual 3D solids.
Learn how to use some of the new features from recent releases

Installation

Install multiple languages side-by-side

You can install multiple languages of Advance Steel 2018 side by side on the same computer.

To install an additional language, just start again the installation. The tool will automatically detect that Advance Steel 2018 is already installed, and it will give you the possibility to add another language.

Once the installation is finished, you can see that you get different icons on your desktop, one for each installed language.

https://youtu.be/KoOYc6q7yZM
Migration tool

The Migrate Custom Settings tool offers a modern and informative interface for migrating your custom settings and files from a previous release to Advance Steel 2018.

It helps detect and identify customized settings and enables you to choose which ones you would like to migrate.

A summary report created from the migration offers comprehensive information in an easy-to-read format.

https://youtu.be/gn19NIxWSXY

If you change your mind about migrating settings from a previous release, you can easily restore Advance Steel default settings using the Reset tool, which is available from the Start menu.
Country Settings and Configurations

When you start Advance Steel 2018, a new dialog gives you the possibility to select different country settings and configurations.

By selecting “United States” as content, you have access to Advance Steel DWT templates delivered by default for the US market.

If you want to display again the new dialog which appeared when you started Advance Steel 2018, you can go to the Management Tools and then unselect the option “Don’t show the window when Advance Steel starts” available in the Options tab.

https://youtu.be/6vtoeRRJcJc

Starting AutoCAD 2018 alone

Users who would like to run just the AutoCAD functionality of the product can select ‘Autodesk Advance Steel 2018 – AutoCAD’ from the Start Menu.
New content pack for China

A new content pack for China is available for Advance Steel 2018.

It is a separate extension downloadable from the Autodesk App Store.

It comes with a specific installation for China which provides a set of predefined and ready-to-use settings and templates that helps users to speed up the modeling and get documents based on the Chinese standards.

For Advance Steel 2017:
https://apps.autodesk.com/ACD/zh-CN/Detail/Index?id=4061911728352638626&appLang=zh-CN&os=Win64

For Advance Steel 2018:
https://apps.autodesk.com/ADSTPR/zh-CN/Detail/Index?id=8671658221441141530&appLang=zh-CN&os=Win64
Combine model views with cameras

Advance Steel 2018 now enables you to combine a model view with a camera and use it for drawing creation by assigning it a specific drawing style & scale.

By using a Drawing Process, you can automate the creation of general arrangement drawings based on these cameras.

https://youtu.be/6sJRTevnpdA
Call out views

This new functionality gives you the ability to create a callout directly within the drawing. With the new "Create callout view" feature, you can now create a call out view from a 2D view or 3D view on your drawing.

By pressing S like Settings, you can access a dialog where you can specify the scale and assign a specific presentation to be used. Once you have created the call out, you can move the title placement with its grip and you can control the frame appearance and change it - for example from a rectangle to a circle or vice-versa.

https://youtu.be/G3m9veuyzC0
Drawing styles for manual cut views

Advance Steel 2018 offers the possibility to better control ready-to-use presentations available when adding a manual cut or a call out view on a drawing.

The drawing styles manager enables you to select which view presentations you would like to have available with a new option “Used for Cuts and Callouts” located under “View properties” tab.

![View settings dialog]

When inserting a manual cut or a call out view within a drawing, press S like Settings to access the “View settings” dialog containing the predefined view templates and select the one you want to use for the view you add to the drawing.
Localized online documentation

The Advance Steel online help documentation, which has been available only in English until now, is also available in French and German languages.
Interoperability

Custom objects stored in the DWG file of the 3D model

If your Advance Steel model contains custom properties such as custom sections or custom materials, you can choose to write this information in the DWG file so that other project team members or stakeholders can visualize the entire model in other products such as Navisworks, AutoCAD Plant 3D, BIM 360, or A360 Viewer.

If you change your mind about including custom properties in your Advance Steel DWG file, you can use the “Delete stored data” icon available in the User Interface.

More information here:

Advance Steel 2018 Object enabler

The Advance Steel 2018 object enabler gives you the opportunity to open any Advance Steel 2D drawings in plain AutoCAD 2018 or AutoCAD LT 2018.

What’s New in Advance Steel 2018 playlist on YouTube

http://autode.sk/AS2018
Understand efficient practices for BIM workflows with other software

Link between Revit and Advance Steel

There is a bidirectional link between Revit 2018 and Advance Steel 2018, which allows you to exchange the structural steel members and also the steel connections between the two software.

Advance Steel 2018 Extension

The Advance Steel 2018 Extension helps steel detailers and fabricators to take better advantage of the steel design model done in Revit.

This addin can be downloaded & installed from the Autodesk App Store website.

This extension offers a high level of model information exchange, especially with synchronization for Revit models containing steel connections back and forth with Advance Steel.

Autodesk Steel Connections for Revit 2018

You have the ability to place steel connections directly on the structural sections in your Revit model.

You can download and install the Autodesk steel connections from your Autodesk account.
The Steel Connections for Revit 2018 provides access to 130 parametric steel connections, enabling connections to be modeled with a higher level of detail.

Revit users can create steel connections between structural columns and structural framing using standard Revit families but also custom families.

Link between Advance Steel and Robot

Robot-AdvanceSteel Link 2018

Once the model has been optimized in Robot, it can be exported to Advance Steel, where additional detailing and documentation can be done for fabrication purposes.

You need to download & install the “Robot-AdvanceSteel link 2018” from the Autodesk App Store website.

Once installed, Robot users get access to an additional menu where they can import, export or synchronize their Robot 2018 model with Advance Steel 2018.
Coordination model

You can attach coordination models to your Advance Steel model.

The Attach command and the Xref Manager have options for Autodesk Navisworks files.

PDF Import command

The PDF import command offers the option of selecting an attached PDF underlay. You will find this option in the contextual PDF Underlay ribbon tab.
Upload the native DWG file to BIM 360 Team

BIM 360 Team is a cloud collaboration tool that enables architects, engineers, and their project stakeholders to work efficiently together in one central workspace. With BIM 360 Team, you can view, share and review 100+ 2D and 3D file formats from any device and extend BIM to the entire team.

BIM 360 Team enables you to upload project files to enable project members to collaborate on the project.

You can invite team members; just enter the email addresses of the people you want to invite and click “Send Invitations”. The role of project team members determines their project access level.
Export to Navisworks (clash check, annotations, 4D)

You can export your Advance Steel model to Navisworks by clicking the “Export to Navisworks” icon located in the Export & Import user interface.

Doing so, will automatically launch and import your Advance Steel Model into Navisworks.

Once the model is in Navisworks, you’ll notice that all of the object properties generated in Advance Steel will import as well.

Navisworks also gives you the ability to review your model for accuracy, such as calculate distances, areas, and angles, through various measuring and mark-up tools. For example, you can add a revision cloud to any area of concern, complete with comments that are saved in the associated viewport.

When it comes to estimating, planning, and tracking the project, the Timeliner feature can help simulate the erection of your design. 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.

You can even export this simulation as an AVI file to share it with the other project stakeholders.
Link with MIS solutions

An important aspect of Connecting the Delivery of fabrication to the field is giving steel fabricators more accurate information about the design to help them better optimize the Delivery of their fabricated products, both in the shop and in the field.

Our technology partners in the Material Information System space are a key part of making this achievable. Our partners here today are helping connect our fabrication information models to their MIS software to better drive shop and field execution. For example, FabSuite, Graitec, Steel Projects, FabTrol and StruMIS have helped connect Advance Steel’s fabrication data to their steel MIS software.
Create a Panorama rendering for Google Cardboard VR

You have the possibility to generate a Stereo Panorama from your Advance Steel 3D model that can be viewed in a Google Cardboard or compatible device.

Google Cardboard is an inexpensive way to experience Virtual Reality using cheap cardboard 'goggles' and your own smartphone device. This offers a great and inexpensive opportunity to check your design in an early stage of the process.

To render a Panorama from Advance Steel, you need to use Render in Cloud, which will upload your current model and render its 3D view with Autodesk Online Rendering Services.

Rendering might take some time, you can be notified by receiving an email when it's finished.

You can go to the Render Gallery to access your renderings available under My Renderings tab. Once the rendering is complete, the thumbnail displays in your gallery. Click the stereo panorama thumbnail to expand the preview of the image.

Select the Preview on your phone checkbox to generate a URL, and a QR code will display on the bottom-left corner of the image.
To view the stereo panorama rendering on a mobile phone, scan the QR code with a QR code scanning app on your phone to open the URL. And slide your phone into a pair of virtual reality goggles and look through them for an immersive 3D stereo panorama experience.

https://youtu.be/fsgNBmvsocE