Up and Running with Autodesk Advance Steel

Deepak Maini
National Technical Manager – Named Accounts
Cadgroup Australia
Welcome to AU2019
My Introduction

- Qualified Mechanical Engineer
- Around 20 Years of experience in the industry
- Autodesk Expert Elite and Autodesk BIM 360 Certified Consultant
- Awarded the “Best Autodesk University Speaker” two years in a row at AU2018 and AU2017 in Las Vegas
- Awarded the “Best Speaker” award at the Bluebeam XCON 2019 in Washington DC
- Among the Top Speakers at various BILT conferences in Asia and ANZ
- Author of the Up and Running with Autodesk Navisworks, Autodesk Navisworks for BIM/VDC Managers and Up and Running with Autodesk Advance Steel series of books
- Guest lecturer at the University of Technology Sydney (UTS) and University of New South Wales (UNSW)
Lab Buddies

Philippe Bonneau
Technical Marketing Manager, Autodesk

Ian Coats
Technical Specialist: Structural BIM, Autodesk Inc.

Aaron Coats
National BIM/CAD Manager, Bates Smart Australia
My Aim: Have Lots of Fun as we Learn
(Lots of goodies to give away)
Thanks to My Sponsors

CADGROUP

BIMTRACK®

RTVTOOLS

DRAFTECH DEVELOPMENTS
SMART BUILDING SMART MONEY
Acknowledgements

• Janice Miller-Kellerman and Adam Sopko from the Content Management Team
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Rules of Engagement

- 10 Sections to be Completed in this lab + 2 Extra Sections
- Only have 90 Minutes (~75) to Complete All Sections
- I will Show you the Steps in Each Section First and then Let you Work on that Section
- All Required Exercise Files are in the Imperial Units (US Settings) and Metric (Australia Settings) and are saved in a Folder called C:\DATASETS\Dataset-FAB317849-L
- Imperial Handouts under Class Handout and Metric are under Additional Class Material
- Great “Lab Buddies” Here to Help You, if needed (Thank You Guys)
Section 1: Starting Advance Steel

- Selecting the Country Settings to start Advance Steel
Section 2: Inserting and Copying Columns, Peripheral Beams and Filter Beams *(Do this with me)*

- Open the Section2-Imperial.dwg or Section2-Metric.dwg file
- Selecting the Object Snap Types and configure the Polar Tracking settings
Before we start with Advance Steel

Very Very Very Very Important Rule to Follow
PLEASE PLEASE PLEASE PLEASE

READ PROMPT SEQUENCES
Section 2: Inserting and Copying Columns, Peripheral Beams and Filter Beams

- Insert a Rolled I Section at A1 Grid Intersection Point with the Height of 40’ or 12m. Section Type is AISC 14.1 W > W12x210 or Australian Universal Column > 310 UC 158

- Copy the section to the A2, C1 and C3 Grid Intersection Points
Section 2: *(Steps 5-14 and Stop)*
Section 2: Inserting and Copying Columns, Peripheral Beams and Filter Beams

- Change the display of columns to Symbol

- Insert Perimeter Beams at Midpoints. Section Type is AISC 14.1 S > S24X121 or Australian Universal Beam > 530 UB 82.0
Section 2: *(Steps 15-30 Only)*
Section 2: Inserting and Copying Columns, Peripheral Beams and Filter Beams

- Isolate Beams and Change the view to Top View

- Copy Perimeter Beams
Section 2: *(Steps 31-35 Only)*
Section 2: Inserting and Copying Columns, Peripheral Beams and Filter Beams *(Do with me)*

- Split Beams
- Change the sizes to AISC 14.1 S > S12X50 or Australian Universal Beam > 250 UB 31.4
Section 2: Inserting and Copying Columns, Peripheral Beams and Filter Beams

- Unisolate All Objects
- Copy all Beams
Section 2: *(Steps 43-49)*
Section 3: Inserting and Propagating the Base Plate Joint

(Do with me)

- Open the Section3-Imperial.dwg or Section3-Metric.dwg file
- Turn on Connection vault
- Navigate to the base of the column at A1 grid intersection point
Section 3: Inserting and Propagating the Base Plate Joint

Selection order: 1. Column
Profiles: square, rectangular or circular tubes
Description: A plate is created at the base of a column. The column is either vertical or inclined. The base plate is horizontal to the base or perpendicular to the column for an inclined column. The plate is welded to the column and anchors can be created.
Options: Joint design, various stiffeners, washer plates, leveling plate, shim plates, shear anchor, galvanizing holes, punch marks
Section 3: *(Steps 4-23)*
Propagating Joints

- Only the joints that require Steel Section (beams and columns) elements as the inputs are supported. Joints that require other elements, such as plates, as the inputs are not supported.

- All input elements are the exact same sections as those in the source joint.

- All input elements should have the same model role as those in the source joint.

- If the input elements in the source joint do not have model roles defined, then the joint will only be propagated in situations where the input elements do not have model roles defined.

- All input elements should have the same relative position as those in the source joint.
Section 3: Inserting and Propagating the Base Plate Joints

- Right-click on the Joint Box and select **Propagate Joint** from the shortcut menu.
Section 3: (Steps 24 Onwards)
Section 4: Inserting Stairs

- Open the Section4-Imperial.dwg or Section4-Metric.dwg file
- Invoke the Straight stairs tool
Section 4: \((All \ Steps)\)
Section 5: Numbering Single Parts and Assemblies *(Do with me)*

- Open the `Section5-Imperial.dwg` or `Section5-Metric.dwg` file
- In METRIC Settings only
Section 5: Numbering Single Parts and Assemblies *(Do with me)*

- Invoke the Numbering tool
Section 5: Numbering Single Parts and Assemblies *(Do with me)*

- Configure the settings in the dialog box, as shown below:
Section 5: Numbering Single Parts and Assemblies (Do with me)

- Click OK in the dialog box
Section 6: Generating Single Part Drawings Using the Default Drawing Processes (*Imperial Users Only Do with me*)

- For IMPERIAL ONLY
Section 6: Generating Single Part Drawings Using the Default Drawing Processes

*(Everyone Do with me)*

- Invoke the Drawing Processes tool
Section 6: Generating Single Part Drawings Using the Default Drawing Processes
Section 6: *(Metric Steps 2 onwards and Imperial Steps 8 onwards)*
Section 7: Generating Assembly Drawings Using the Default Drawing Processes

- Select the sections labelled as 1, 2, and 3
Section 7: Generating Assembly Drawings Using the Default Drawing Processes

- Select the tool to generate Assembly drawings
Section 7: *(All steps)*
Section 8: Generating NC Files for Beams and DXF Files for Plates

- **Invoke** Model browser
Section 8: Generating NC Files for Beams and DXF Files for Plates

- Select all Beams
- Select the NC tool
Section 8: Generating NC Files for Beams and DXF Files for Plates

- Select all Plates
- Invoke the DXF tool
Section 8: *(All Steps)*
Section 9: Generating Bill of Materials (BOMs)

- **Invoke the BOM Templates tool**
Section 9: Generating Bill of Materials (BOMs)

- Select Assembly list – exploded bolts
Section 9: Generating Bill of Materials (BOMs)

- Save the BOM
Section 9: Generating Bill of Materials (BOMs)

- **Select Parts list > Beam list** and then save the BOM
Section 9: *All Steps*
Section 10: Reviewing the Generated Documentation

- **Invoke the** Document manager **tool**
Section 10: Reviewing the Generated Documentation

- Click on the drawings to preview them
Section 10: Reviewing the Generated Documentation

- Review NC files, DXF files and BOMs
Section 10: *(All Steps)*
Questions??
Now the goodies...