User Manual for FerrousWheel Tool
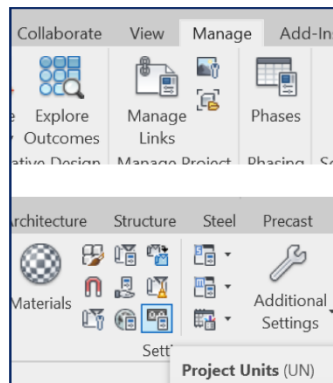
1: Before opening any software:

Make sure all the required software in the device has the following versions:

- ✓ Revit 2022
- ✓ Dynamo 2.10.1
- ✓ Microsoft Excel 2016 or newer

2: After opening Revit and before loading Dynamo Player:

1/ Make sure that the units in the Revit file are in millimetres (mm), as the tool was designed using mm and Dynamo follows Revit in terms of units. In the ribbon, go to **Manage > Project Units**

2/ Ensure that all the section sizes of the beam types used in the Revit model are loaded.

For instance, if the model includes a beam with a UB section type, make sure to load all the available UB section sizes from the stock list.

To access the required section sizes, refer to the Excel file named **'Required Section Sizes for Uploading in Revit File Prior to Running Dynamo Player'**.

*Note that the stock list used to extract the section sizes in the previous Excel file is **"Reuse Stocklist July 2022.xlsx"**. If a different or an updated stock list is used, the section sizes will be different. Hence, ensure to load the right section sizes according to the stock list used.*

The loaded beam list can be checked in Revit by choosing Structure option from the title bar > Beam > First option in the Properties palette as shown in the Figure.

If the beams are not loaded, the sections can be loaded from **Structure > Beam > Load Family > English > UK > Structural Framing > Steel > British Standard > UB/ UC > section size that needs to be loaded**, then click Modify.

3/ Load Dynamo player.
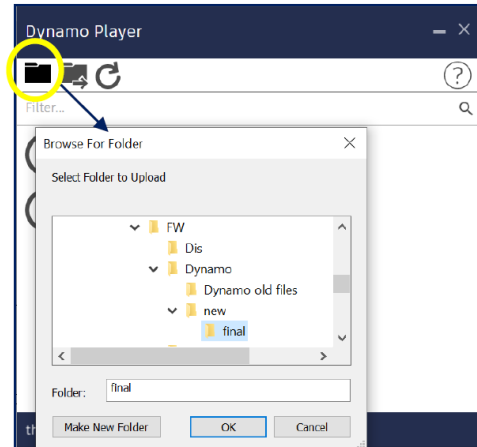In the ribbon, go to **Manage > Dynamo Player.**
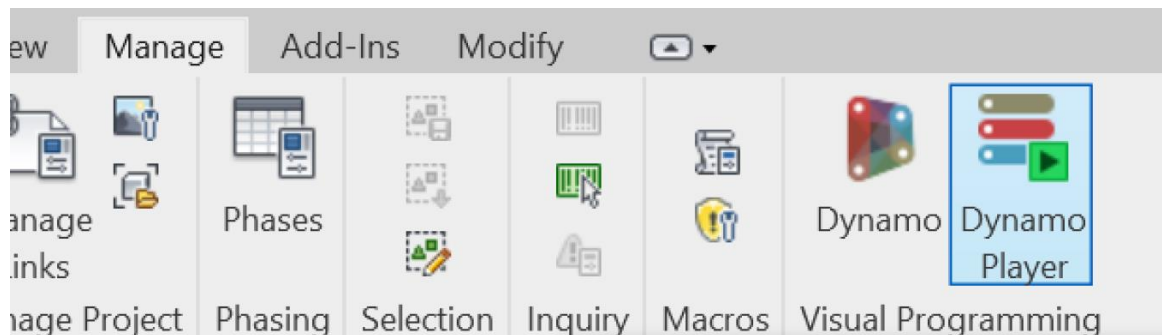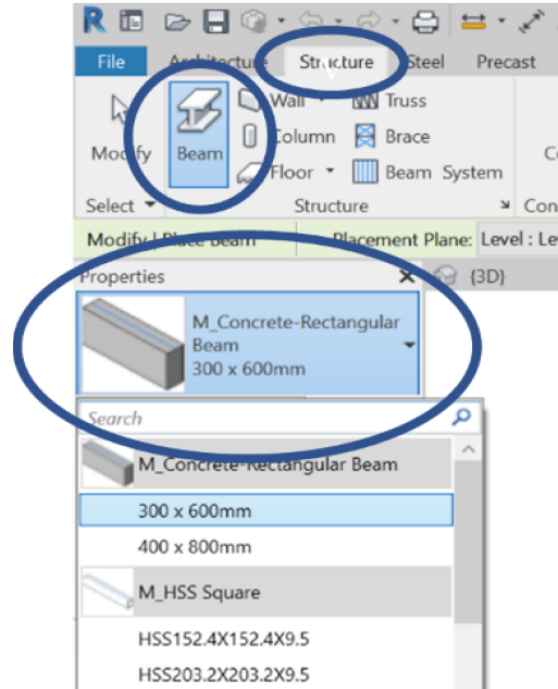
2: After loading Dynamo player:

1/ Open the Ferrous Wheel tool by locating the folder that contains it.
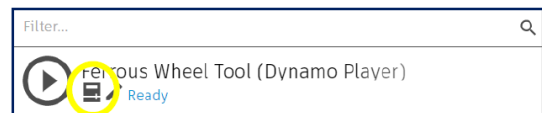
Note that the Dynamo file that contains the tool will not be shown.

Select the folder that has the Dynamo file and click OK.

2/ The Dynamo file will be shown in the Dynamo Player interface.
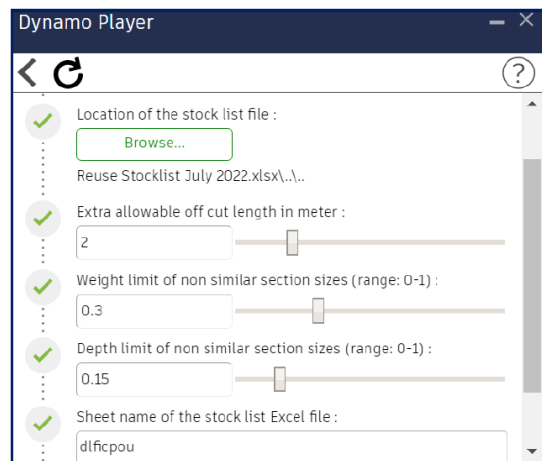
3/ Before running the tool, click on the edit icon to enter the necessary inputs.

4/ The interface should look like the figure.

There are 5 inputs that are controlled by the user. 3 of them are different limits that can be modified to meet the user's requirements.

The other two are related to the Excel file of the stock list location and its sheet name.

Locate the Excel file that stores the stock list file in the device. Then, change the sheet name according to the stock list sheet name.

Make sure to use Upper and lower case letters accordingly, as Dynamo is case-sensitive.

5/ Run the tool, this will update the beams in Revit model along with the colouring scheme as shown in the Figure. Green is for the Reused beams which have the same section sizes as the original beams, and Orange for the Reused beams which have different section sizes but are within the length, depth and weight limits. The beams without colours were not changed as their suitable replacements from the stock list were not found.