SECONDARY GIRTS

New to SDS/2 v2020 are **Secondary Girts**. These are girts that run vertically between two horizontal girts or from a horizontal girt to the floor and can also be added with no supporting members. Additionally, the main horizontal **Girt** member can frame and connect to these vertical girts in your model.

ADDING SECONDARY GIRTS

To add a Secondary Girt, go to your **Model** pull-down, and select **Members > Add > Prompt for member type.** You can also use the **f2** keyboard shortcut to launch this window.

When adding the Secondary Girt, you will pick two points, like any other member. The secondary girt will be oriented to be at a 90 degree angle to any supporting horizontal girts.

The direction you pick your point does not affect which end is the left end of the member line, just like all other members line beams and columns.

When you pick your two points, the edit window that allows you to define General settings, Left and right end elevations and clearance, connection information, and end preparations.

Figure 1: Prompt For Member Type Window

The *General settings* leaf allows you to define the main information for the member, like *Section size, Toe Direction, Steel Grade, Sequence* and other options common to members. Currently, the only sections that are supported for connections are **Channels.**
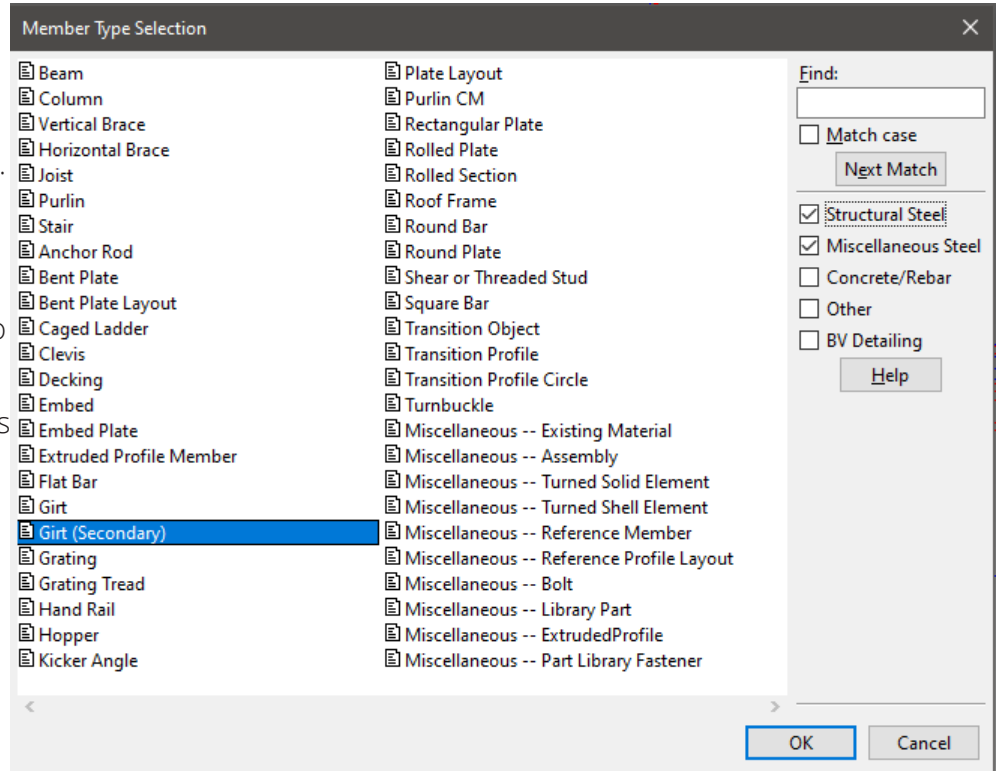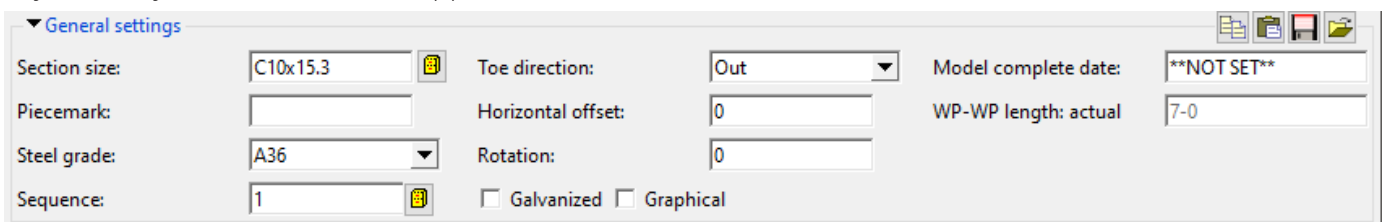

Figure 2: General Settings Leaf

The **Bottom** and **Top Ends** both will contain the same leaves of *Member, Connection, and End Preparations.* The *Member* leaf will contain the end's elevation and a clearance, which is the material connection clearance for the main material, as shown in Figure 4. The Secondary Girt member will automatically set back the connection from the selected or input elevation to any valid framing face.
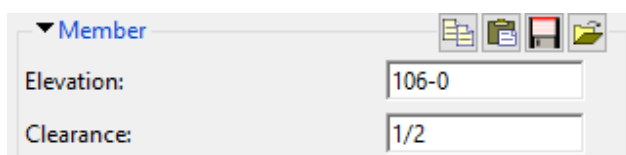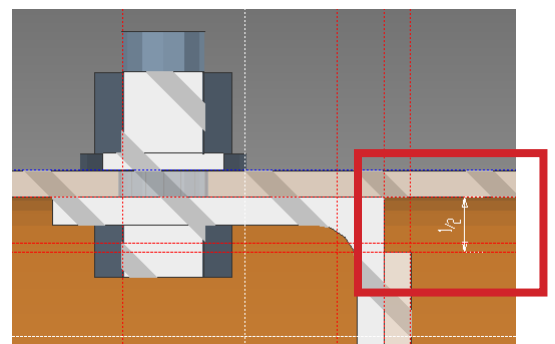

Figure 3: Member Leaf

Figure 4: Clearance

The *Connection* leaf is where you define the connection information for the Secondary Girt's connections. Currently, the only connection types are *Angle* and *Plain End*. *Plain End* will not provide a connection at that end of the secondary girt. With *Angle*, you have control over what you want to have used for the angle connection.

- *Angle section size:* This is the size of the angle used in the connection.

- *Steel Grade:* This is the grade used for the connection angle.

- *Attach to:* This is the member that the connection material will be attached to for the secondary girt; your options are *Supported* or *Supporting*.

- *Attachment Side:* This is which side of the secondary girt you want the connection angle to be placed. Your options are **Interior** (inside the toes of the channel) or **Back** (opposite side of the toes of the channel), or both.

- *Long leg to:* If using unequal leg length angles, you can decide which member the long leg is placed against; the options are *Supported* or *Supporting* members.

- *Supported attachment:* This is the connection method to the supported member; the options are **Welded** or **Bolted**.

- *Supporting attachment:* This is the connection method to the supporting member; the options are **Welded** or **Bolted**.

Figure 5: Connection Leaf

- If set to welded you also have the option for the weld thickness for the connection.

- If set to bolted, you will get fields for the bolted connection information. This includes the *Bolt type, Bolt diameter, Hole type, Rows* and *Columns*, including *Spacing*, *Girt line to first hole, Edge distance*, and *Gage on leg*. These apply to the angle leg for which it is set.

- *Girt line to first hole:* This is the distance from the Secondary Girt member line to the location of the first bolt in the connection. Figure 6 is looking at web of the Secondary Girt framing to a horizontal girt at the top. Adjusting this will move the connection angle closer or further from the secondary girt member line.

- *Edge Distance:* This is the edge distance for the bolts in that leg to the edge of the angle, as shown in Figure 6, as the 1 1/4 dimension. This affects both edges of the angle equally.

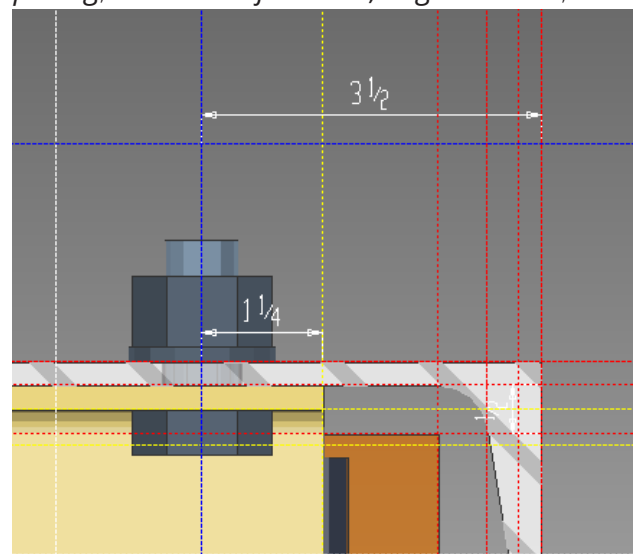- *Gage on leg:* This is the gage used for the connection on that leg measured from the heal of the angle.

Figure 6: Girt Line to First Hole and Edge distance

The *End preparations* leaf will give you control over the auto generated copes, based on the framing situation. You can completely turn off the copes by unchecking **Enable cope**, or override the information generated, if desired. The minimum *Depth* that can be manually input will be two times the *Radius* being used for the cope. If anything smaller is filled out, it will change to two times the radius with generating the cope.
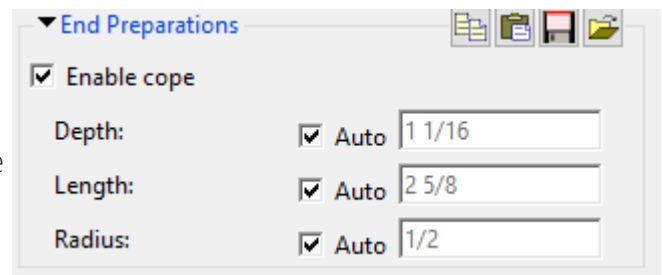

Figure 7: End Preparations

GIRTS FRAMING TO SECONDARY GIRTS.

When a *Girt* frames to a Secondary Girt, the main *Girt* member's connection must be set to *Angle* to generate a valid connection to the Secondary Girt.

ADDITIONAL INFORMATION

You can frame a Girt to nothing, like at the floor, or in space not framing to anything. When framing to nothing on one end, the girt will still provide connection material, provided that the connection is attached to the supported member.

When in space framing to no supporting members on either end, you can control the member rotation in the Member Edit window in the General Settings leaf of the secondary girt. If a main *Girt* member frames above or below it at any time, it will automatically rotate itself to be perpendicular to the supporting member.

You can frame to the under side or top side of a beam as well; you will need to pick your points at the top or bottom flange, and be in a working plane that aligns the girt's connection with the flange. The connection material will be generated when it is attached to the supported member, which will be the secondary Girt, but any holes or bolts to the beam flanges will have to be matched by the user in these cases.
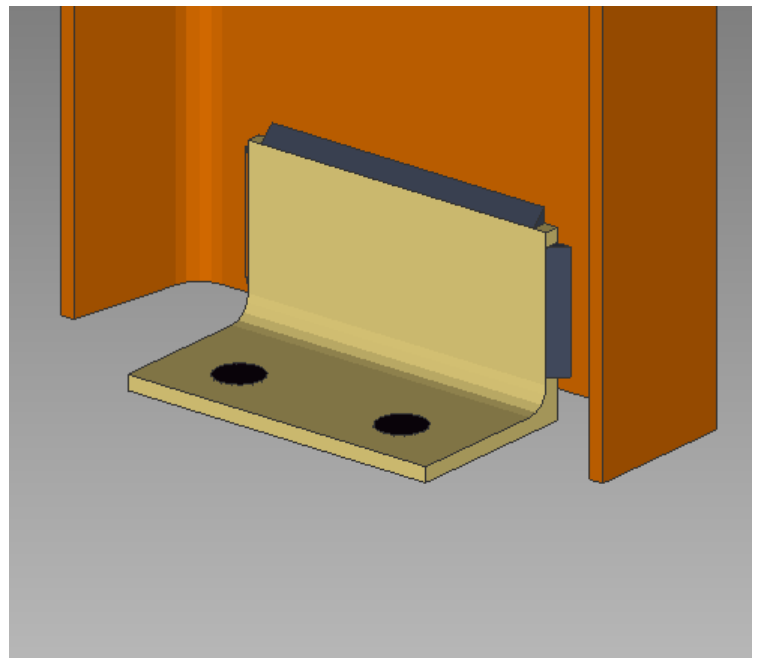

Figure 8: Framing to Floor Example

NOTE: THE SECONDARY GIRT CURRENTLY ONLY SUPPORTS VERTICAL ORIENTATIONS IN YOUR MODEL.