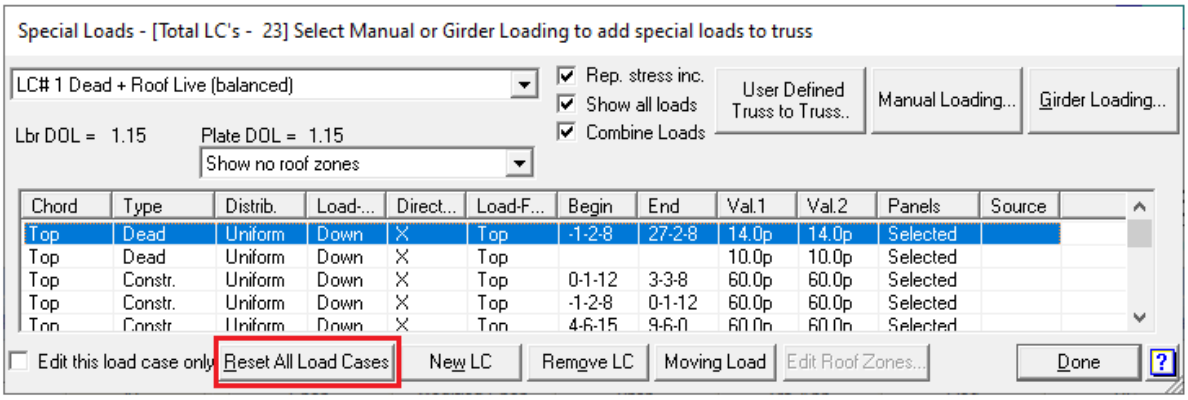
Cantilever Corner Girder Loading Tool in MiTek 20/20 Engineering and Structure with Truss Design.

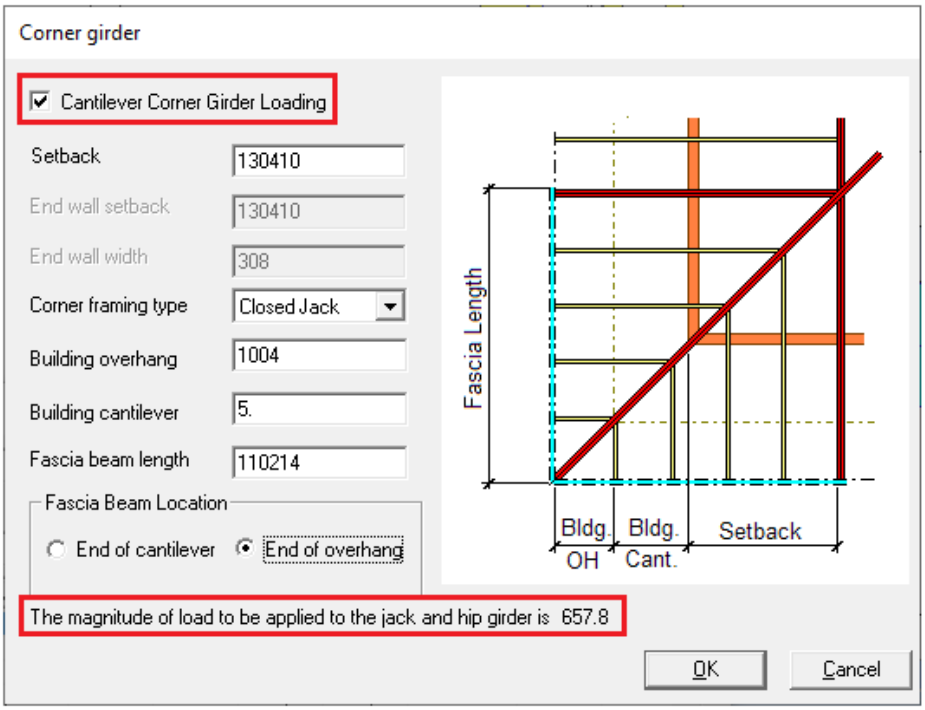
When the building has greater than 4’ of cantilever, overhang, or combined cantilever and overhang, structural fascia will be needed to support some of that framing. When the corner is symmetrical the MiTek engineering program has a girder loading tool to aid in the calculation of loads from the fascia. The loading tool is not meant for a non-symmetrical corner. Contact your MiTek engineering contact for help loading non-symmetrical corners.

Open the corner girder truss and break the design connection if one exists.

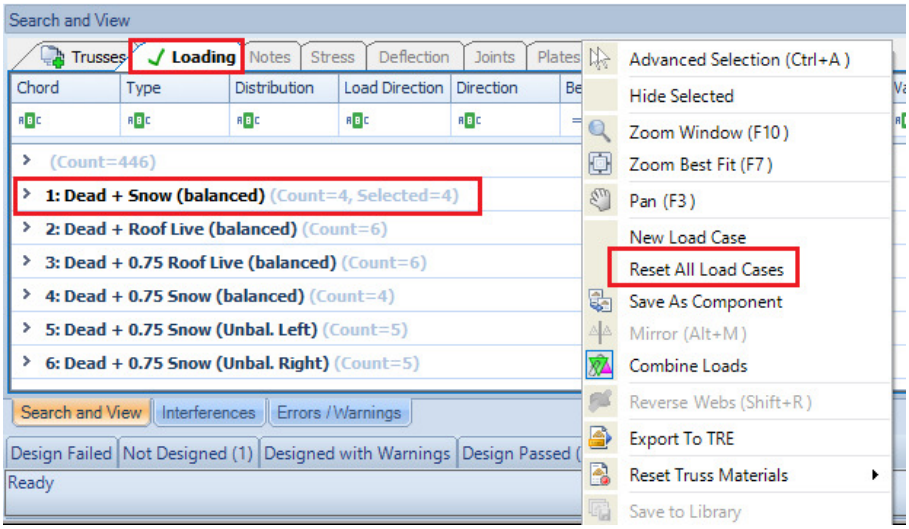
In MiTek 20/20 Engineering go to Tools, Special Loads, and click on Reset all Load Cases as shown below:



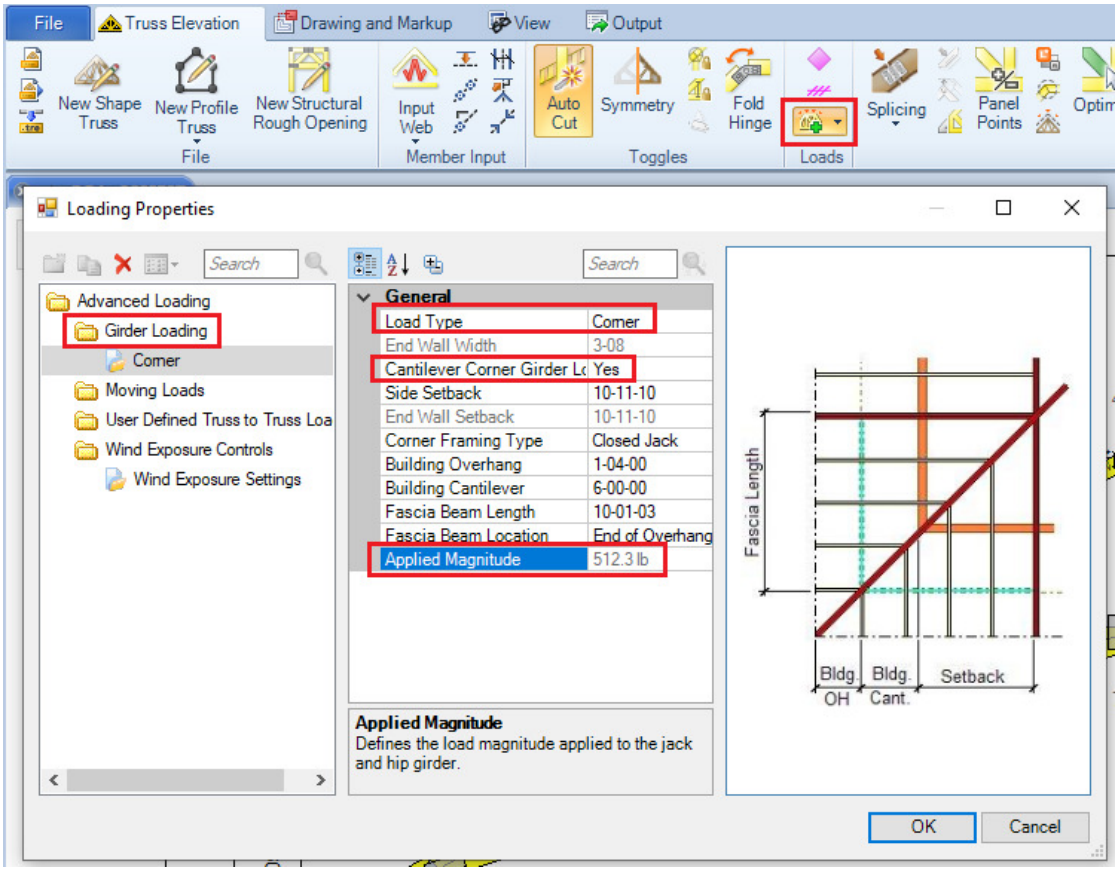
Go back to Tools, Special Loads, and click on Girder Loading – Create - Corner. Click on the check box next to Cantilever Corner Girder Loading.



In Structure with Truss Design go to Truss Loading, click the right mouse button on any load case, click Reset All Load Cases in pop-up menu as shown below:



Click on Advanced Loading in Load of the Ribbon Bar, click the right mouse button on Girder Loading and select New Girder Loading. Select Corner in Load Type drop-down menu and Yes for Cantilevered Corner Girder Loading.



This loading tool will load for all the jacks as well as the fascia, so resetting the load cases will clear out any loads from the jacks that are already on the truss.

Verify your setback, overhang length and cantilever length. The overhang and cantilever lengths are the lengths on the common truss, not the corner-truss. Change the corner framing type to closed jack or open jack/rafter based on what you have. When figuring out the fascia length, try to stop the fascia at a jack that has at least half of the total span within the building. The more span of truss that is in the building will help reduce the uplift resulting from the fascia load. In Fascia Beam Location select where the fascia beam will tie into the trusses - either end of cantilever or end of overhang.

Once all of your information is correctly filled in look at the very bottom of the box and find the number next to: *The magnitude of load to be applied to the jack and hip girder is XXX* in MiTek 20/20 Engineering, or in *Applied Magnitude* in Structure with Truss Design. Write this number down because you will need to manually add this load to the ends of the trusses that are supporting the other ends of the fascia. (The hip girder does not have to be a support truss. It is just shown that way for this example)

Click “OK” and the loads will be applied to the corner truss as trapezoidal loads for the jacks and point loads for the fascia beam. Open the trusses that support the other ends of the fascia and add the load you wrote down from the previous step.

For additional information, or if you have questions, please contact the MiTek Engineering department.