



Evolution thro' Knowledge

SOLIDWORKS SHEET METAL & STRUCTURE SYSTEM TOP ENHANCEMENTS IN 2023

SOLIDWORKS 2023 offers a wide range of enhancements and new additions of convenient tools to improve the user experience. Various set of features are included in this release while this blog focus on some of the enhancements and upgrades in Sheet Metal and Structure System.

SHEET METAL

Gauge Values in Cut List Properties

In SOLIDWORKS 2023, when using gauge table, the gauge number appears in the Cut-List Properties dialog box. In the associated drawing, the gauge value is available for annotations and cut lists. In the Cut-List Properties dialog box, the Evaluated Value for Sheet Metal Gauge is Gauge Number GA.

Where to Find:

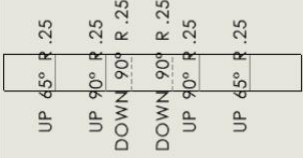
- In drawing, click an annotation
- In Property Manager, click Link to Property.
- In Link to property dialog box, in Property name, select the Sheet Metal Gauge.

Including gauge value properties in cut lists:

- Right-click a flat pattern view and select Annotations > Cut List Properties.
- Click in the sheet to place the cut list properties.

Bounding Box Length: 12.65in
Bounding Box Width: 6.19in
Sheet Metal Thickness: 0.02in
Bounding Box Area: 78.27in²
Bounding Box Area-Blank: 64.7in²
Cutting Length-Outer: 42.41in
Cutting Length-Inner: 141.53in
Cut Outs: 69
Bends: 10
Bend Allowance: 0.5
Material: 1023 Carbon Steel Sheet (SS)
Mass: 0.05lb
Description: Sheet
Bend Radius: 0.03in
Surface Treatment: Finish <not specified>
Cost-TotalCost: 0.00
QUANTITY: 1

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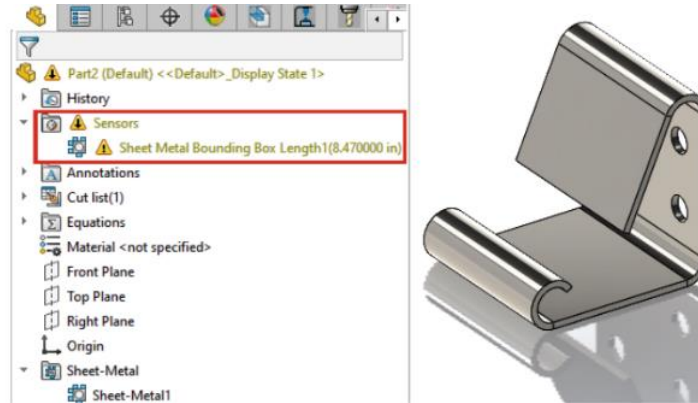
Bounding Box Length: 14.79in
Bounding Box Width: 1.8in
Sheet Metal Thickness: 0.21in
Bounding Box Area: 26.62in²
Bounding Box Area-Blank: 26.62in²
Cutting Length-Outer: 33.18in
Cutting Length-Inner: 0in
Cut Outs: 0
Bends: 6
Bend Allowance: 0.52in
MATERIAL: Plain Carbon Steel
Mass: 1.57lb
Description: Sheet
Bend Radius: 0.25in
Surface Treatment: Finish
Cost-TotalCost: 0
QUANTITY: 1
Sheet Metal Gauge: 5GA

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New Feature: Sensors

Another robust and exclusive capability of SOLIDWORKS 2023 is the usage of sensors in Sheet Metal Sensors alerts when sheet metal models deviate from the limits specified for a bounding box. In multibody parts, sensors can be created for individual bodies. During the design process, if the model exceeds the bounding box parameters, an alert appears in the Feature Manager Design tree.



Symmetrical Thickness

When creating a sheet metal part as a base flange or lofted bend specify a symmetrical thickness that adds an equal amount of material to both sides of the sketch. Symmetrical thickness helps you create sheet metal parts from sketches to help achieve equal bend radii for upward and downward bends.

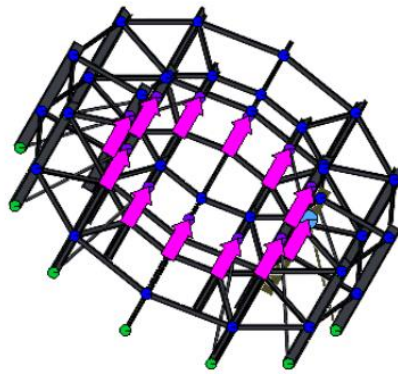
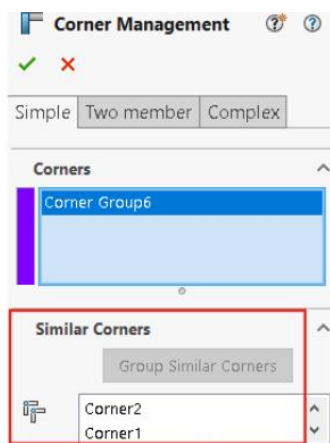


STRUCTURE SYSTEM AND WELDMENTS

New Feature: Corner Treatment to Similar Corners in Structure Systems

In SOLIDWORKS 2023, Grouping Identical Corners made easy by "Group Similar Corners Option", apply a corner treatment to the group, and edit the groups as you required. This is very helpful for large structure system files that have multiple corners.

- Open the structure system file.
- In the Feature Manager Design tree, click Corner Management and select Edit Feature.
- In the Corner Management Property Manager, under Corners, select a corner.
- Click Group Similar Corners.
- Apply corner treatment to the group. The Feature Manager Design tree groups the similar corners as Corner Group XX

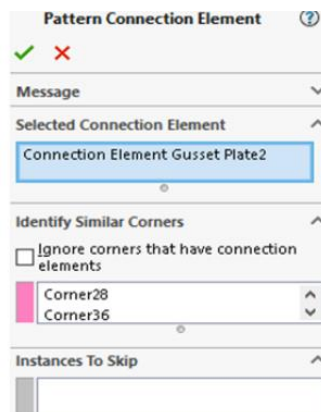


Pattern Connection Element Property Manager

In the Pattern Connection Element Property Manager, user can insert a connection element that is at a corner to similar corners.

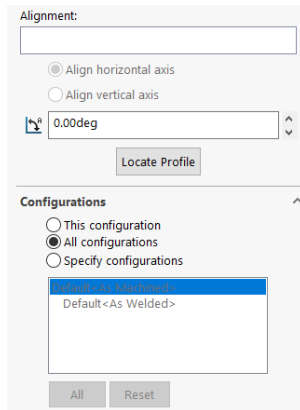
Where to find:

Click Insert > Structure System > Pattern Connection.

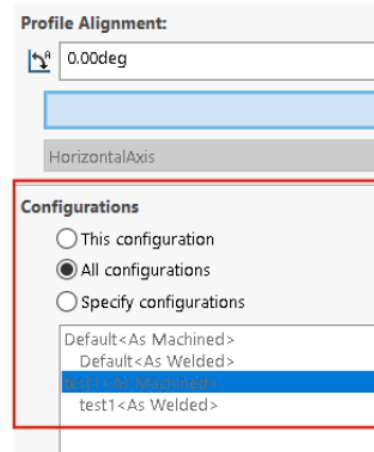


Configuration-Specific Size of Weldment Members

Select a set of weldment members of the same size and type, in the Profile tab and change the size of the members for specific configurations.



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If the structural member has multiple corners, zoom to a corner from the Feature Manager Design tree or the Corner Management Property Manager using Zoom to Selection.
Configuring the Size for Configurations in Structure Systems

Where to find:

- Edit the structure system from the Feature Manager Design tree.
- Select the members in the graphics area.
- Optional: To edit a specific member, in the graphics area, right-click the member, and select Edit Feature.
- In Profile tab, change the size.
- Under Configurations, select specific configuration and click OK.