

# Sheet Metal Design

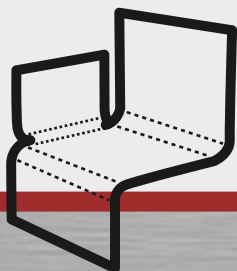


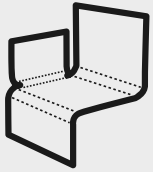
## Harness the Power of Sheet Metal Design.

Equipped with a suite of innovative specific tools, IRONCAD acts as a powerful sheet metal software. Design in 3D and then unfold a part or assembly into 2D for production, or work in 2D and use IRONCAD's 3D visualization capabilities to communicate better with customers.

## Ultimate Solution for Sheet Metal Designers

The ability to move freely between 3D and 2D makes it the perfect software for sheet metal design. Its intuitive interface is easy to grasp and it comes preloaded with several time saving catalogs of process specific parts and features.





# Sheet Metal Design Framework



Sheet metal design is a core capability of IronCAD, with support for the entire design through-fabrication process. Engineers can develop models faster using fewer commands, make changes in real-time, and take designs to production with flat patterns and automatic drawings.

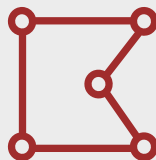
## 01 Drag/Drop Operations

Sheet metal specific design tools that use the same intelligent catalog-based design approach found throughout the IronCAD system.



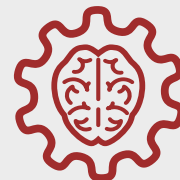
## 02 Sketch Based Operations

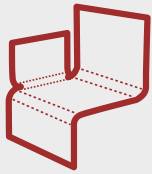
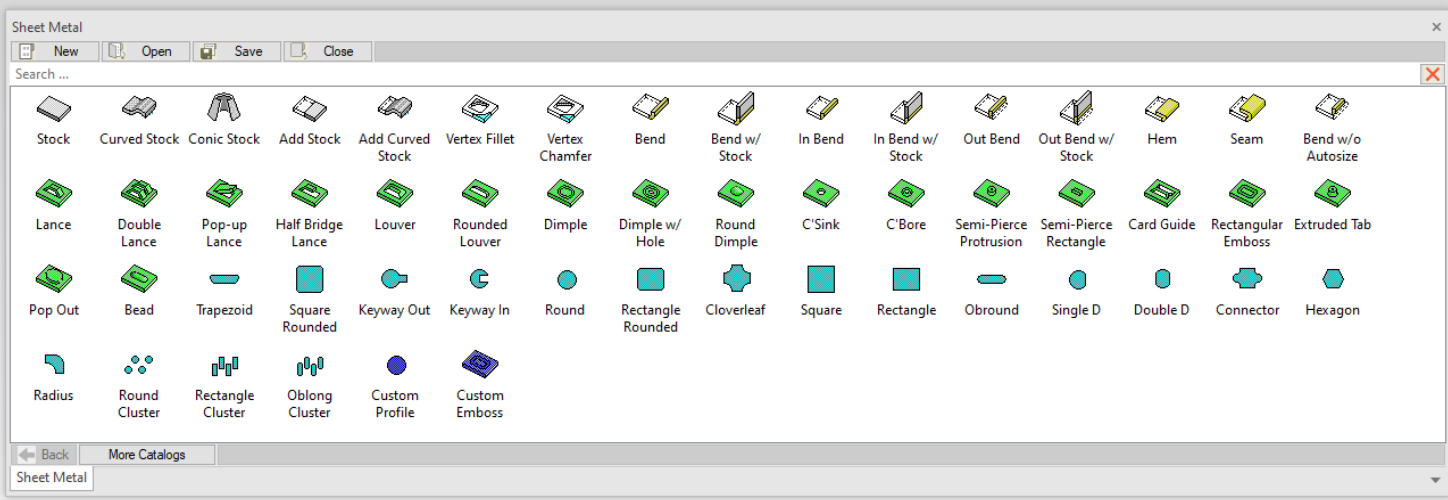
Embedded traditional sketch-based operations that work in harmony with the catalog-based features to deliver even more customizable designs.



## 03 Intelligent Operations

Intelligent operational tools automatically adhere to predefined material specifications as well as conversion factors for up or downstream requirements.





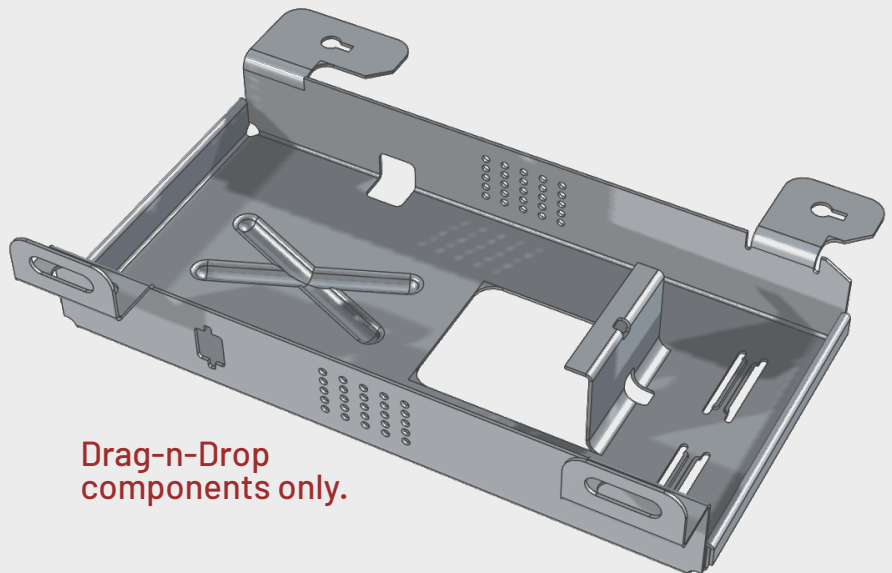
## Catalog-Based Design Features

Design begins with a catalog of basic IntelliShapes as shown below that are utilized in the same manner as the typical IronCAD common features. The part and its component shapes can then be edited in a variety of ways, including menu options, property sheets, and editing handles/buttons.

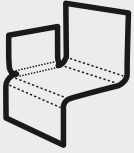


You construct sheet metal models with or without constraints while achieving predictable results through tools such as SmartSnap and 3D driving dimensions applied at the feature level. Access feature buttons for advanced tooling properties and more.

IronCAD enhances manufacturing support with the ability to directly unfold your model with a click to support DXF export for CNC support. Additionally generate drawings automatically complete with auto-bend callouts and more.



**Drag-n-Drop components only.**



# Sheet Metal Handle Technology

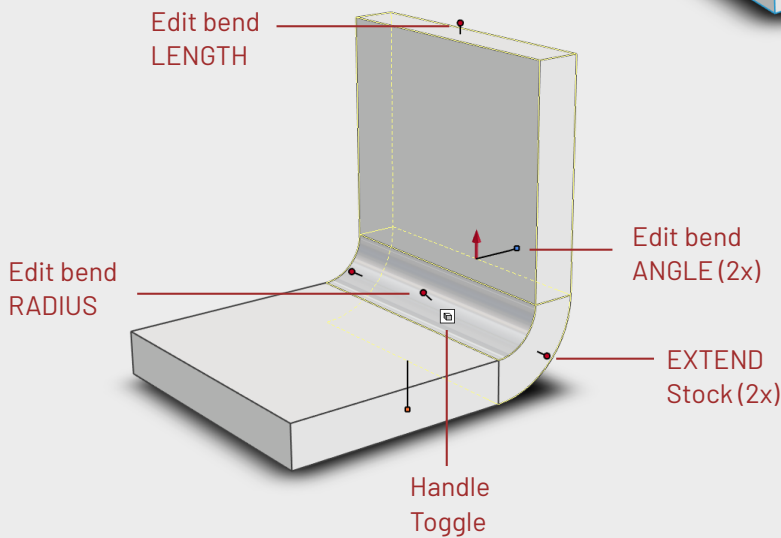
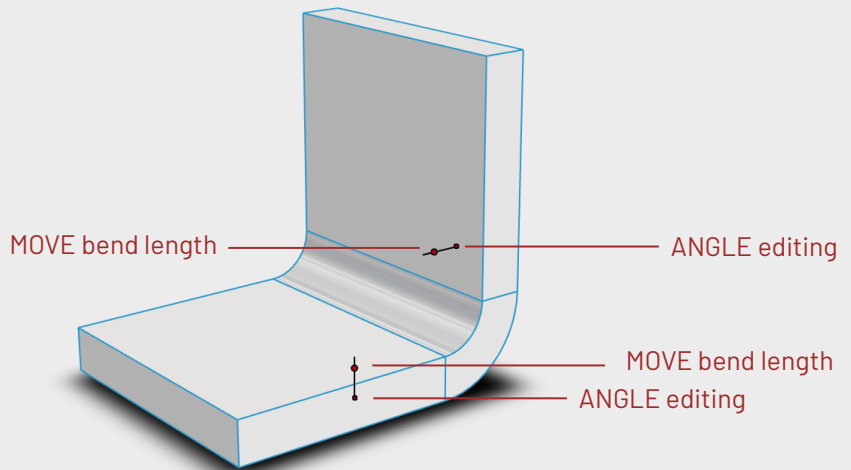


In the late 1980's IronCAD developed "SmartSnap" handle technology and has been the leader in this technology ever since. Patented handle technology is a vital component to IronCAD's solutions and has filtered down into its Sheet metal design environment and tools. Below is an outline of some of the key features to the sheet metal handles.

## 01

### Part Level

Two sets of handles allow you to change the angle of a bend or the length of stock based on a bend.



## 02

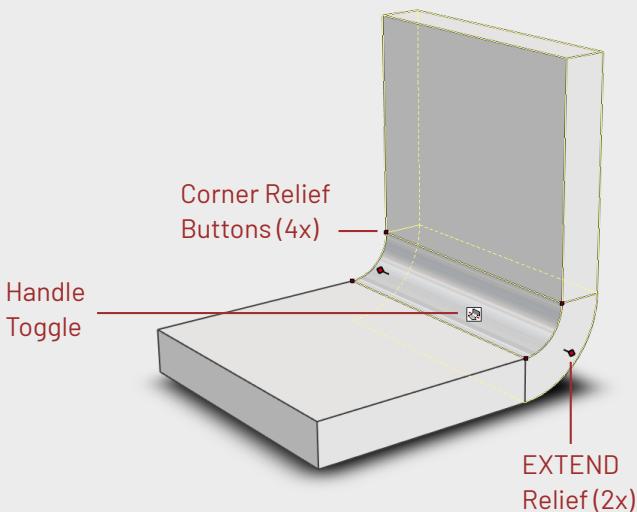
### Bend Shape Level

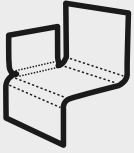
Selecting the bend feature will display handles used to edit angle, radius, bend stock, and extending.

## 03

### Bend Relief Level

Clicking the Handle toggle switches the Bend Shape handles to Bend Relief handles which includes the ability to edit Relief display/orientation buttons and corner relief handles.





# Sheet Metal Handle Technology (con't)

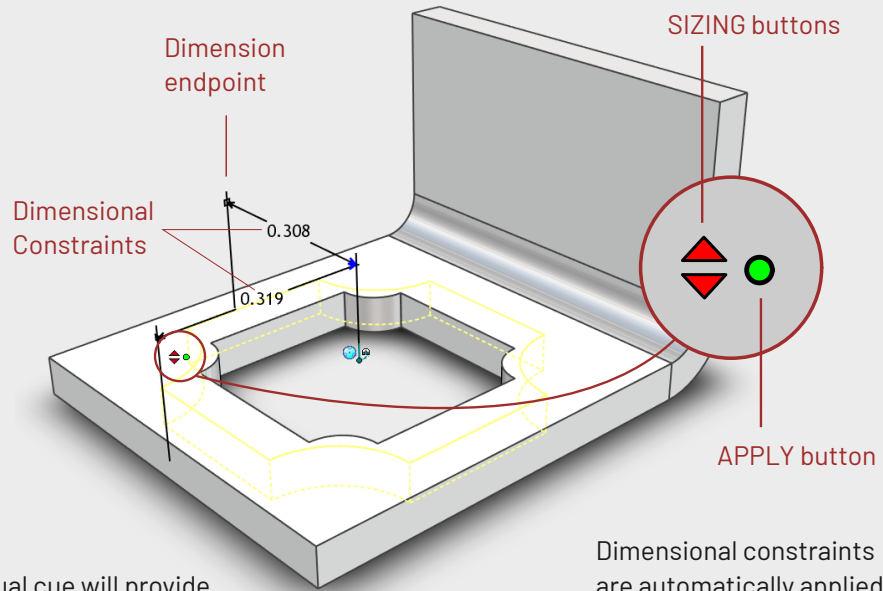


## 04

### Stamped / Punched Shape Level

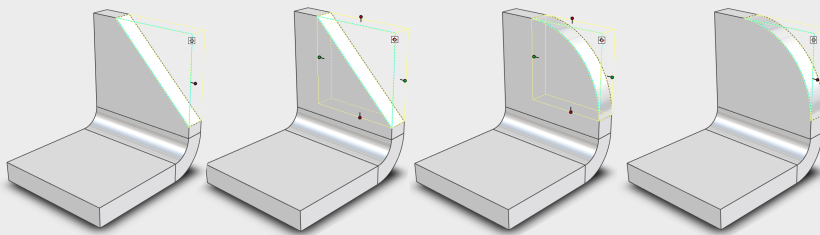
Sizing buttons in the form of up/down arrows are utilized for modifying the shapes sizing based on an underlying database which is fully customizable.

A visual cue will provide feedback to shapes size, click the Apply button to complete the edit. If none of the default shapes meets your needs, simply Right-click on the green apply button to access Tooling Properties.



Alternately, you can also right anywhere on the highlighted shape to access the same tooling properties.

Dimensional constraints are automatically applied to reposition shape if desired. You can grab dimension endpoint to drag onto a desired face for positioning if desired.



## 05

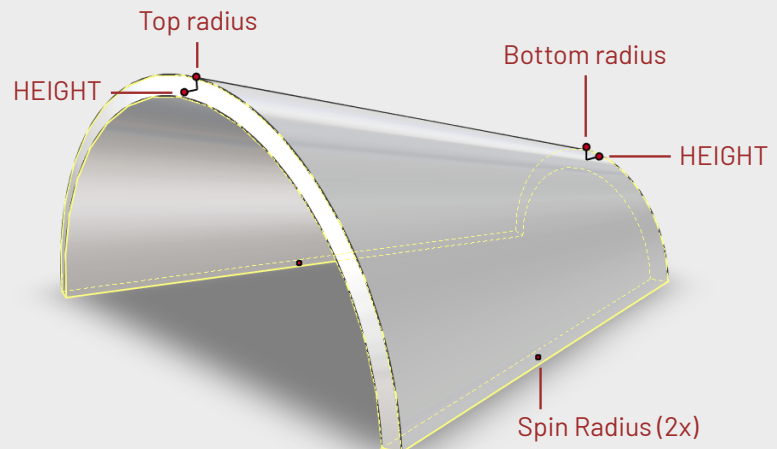
### Vertex Level

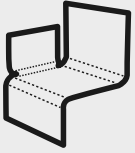
As with flat stock shapes, Shape and Sizebox handles are also available for editing vertex sheet metal shapes such as Fillet and Chamfer.

## 06

### Conical Stock

Handles are available for Conical Stock to adjust the Height, Top and Bottom radii and the Spin radius.





Advanced features  
that sets us apart.



IronCAD has an abundance of very cool tools and features to support you in your sheet metal design experience. With IronCAD leading innovation in the 3D design world, it transcends to the sheet metal environment as well. Here's a few of some of the more key and coolest features.

## 01 Bulk Drawing Creation

Generate multiple drawings automatically based on your custom criteria.

## 02 Tab & Slot Feature

Drag Tabs and Slots with robust parametric control and options of types.

## 03 Customizable Stock List

Modify the Stock list table to address any custom stock needs you may have.

## 04 Import & Conversion

Robust tools to work with neutral 3D data or other software's data.

## 05 Instant DXF Export

Simply drop a tool onto a part of face for instant export to DXF. Great for CNC

## 06 Custom Forming Tools

Allows you to add a custom user-defined form shape to a sheet metal part.

## 07 Specialized Lofting

Use lofting to generate complex sheet metal parts. Even generate press breaks as required.

## 08 Unfold at Part & Feature Levels

One click unfold your design into flat state ready for CNC production or drawing.

## 09 Cut Sheet Metal part

Use other parts in your design to be used as cutting "tools" for your sheet metal part.

## 10 Custom Catalog Creation

Reuse your designs over and over by developing your own custom catalogs.

## 11 Auto Constraints

Various options to automatically constraint stock and bends together for easier updating.

## 12 Corner Modifications

Powerful tools to automatically modify the corners of your part with ease.



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Magnacad, LLC  
169 Commack Road, #160  
Commack, NY 11725

**(631) 974.0677**