# Alibre Design 2011

Feature & Development Summary

It's with great pleasure that we begin the next chapter here at Alibre. To say the time since Alibre Design 12.1 shipped has been a little crazy for us would be quite the understatement - but crazy is good. In fact, we thrive on the classily hypersonic pace of this industry. Since 12.1 we've been looking towards the future, both for our product and who uses it, and have passionately worked to set the stage for this release and those to come. Alibre Design 2011 has two fundamental ingredients: core technology improvements and new features.

Regarding core technology improvements we've devoted quite a bit of time and energy over the last few releases and 2011 to fully porting our code to C#. We realize most of our customers are not programmers and could care less what something is written in, as long as it works. With that in mind, it will suffice to say that the effort we've undertaken has set up this and future releases for a relative fast track regarding new feature development, performance improvements, and the style points that make an application a pleasure to use.

With this effort's conclusion comes the beginning of a new chapter for us in terms of what is possible in Alibre Design. The environment for us now is analogous to a city having a superior road system – everything goes faster and more smoothly. The most obvious thing you will see out of that effort in this release is the inclusion of a native 64 bit version, providing our more demanding users the infrastructure to create designs of enormous complexity. With future releases the true power of what boils down to a powerful programming infrastructure will manifest itself with better looking, faster, more efficient, and easier to use tools that can be implemented by us in a shorter amount of time than before.

Regarding new features we've run the gamut from the small to the large. From keyboard shortcuts to converting a solid part into sheet metal. From virtual intersection dimensioning to a new on-demand framework for detailing drawings. As we'll be covering each in detail in this document it isn't necessary to call each one out here. But you can be sure that Alibre Design 2011 will make you more productive by bringing a wide array of new tools to the table. We took the direction of this release's features, as usual, almost exclusively from the requests of our customers. With that in mind, and in conclusion, let's see what all the fuss is about.

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**Comes in:**

PRO | EXPERT

**What is it?**

In simple terms 32 bit and 64 bit refer to the way a computer's processor handles information and to how much RAM can be used by a program. 64 bit software running on a 64 bit operating system has the advantage of being able to use substantially more memory to execute its commands than a 32 bit program does.

**What's it mean?**

Running a 64 bit version of Alibre Design 2011 basically means you can make bigger, more complex models and have more things open simultaneously. Before the availability of the 64 bit version some customers had to manage what they had open and when because of the potential to run out of available memory. With the offering of a 64 bit version comes a tremendous increase in both what can be created in Alibre Design and the types of workflows people can use.

# Optimizations
The brains...

**Inserting items into a design**

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Alibre Design 2011 comes with substantial performance improvements that can immediately be seen by inserting items into an assembly. In earlier versions part and subassembly insertion could be very slow, depending on the complexity of the items being inserted. The problem scaled with the number of items being inserted. Alibre Design 2011 improves the speed of these operations by nearly a magnitude of 10 and the insertion of almost anything into an assembly is for all intents and purposes immediate.

**More interactive, responsive assembly motion**

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Whenever you move something in an assembly, constrained or unconstrained, a lot of work is going on behind the scenes. Previously Alibre Design had certain cases where it was very inefficient at processing these commands, and the result was a laggy, jittered display of what is happening. This could occur when, for example, you click and drag a part to test its constraints. The performance has been drastically improved. This is important, especially when testing the motion of an assembly, because it allows you a finer degree of control. It also looks and feels much better.

Additionally, the optimizations allow for the speed increase to scale to very large assemblies.

**Automatic Part Reorientation Performance**

PE  PRO  EXPERT

When using the Quick Constrain tool to add relationships to an assembly there is a real time preview. The real time preview involves animating the parts so they smoothly reorient themselves into a position that makes the constraint valid. In some cases, and in large assemblies, these transitions might be very choppy or slow. The performance has been dramatically increased for this scenario.

# Hole Presets & Dialog

Alibre Design 2011 makes it easy to create libraries of your most commonly used hole types on the fly. Simply fill out the form, type a name, and press Create. The hole's parameters can now be recalled instantly via the Presets dropdown.

The dialog has also been redesigned so it takes up less space, looks nicer, and is more intuitive. It changes size based on the options you have selected, only showing extra input fields when they are required.
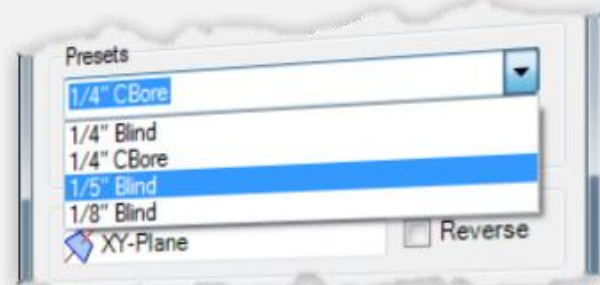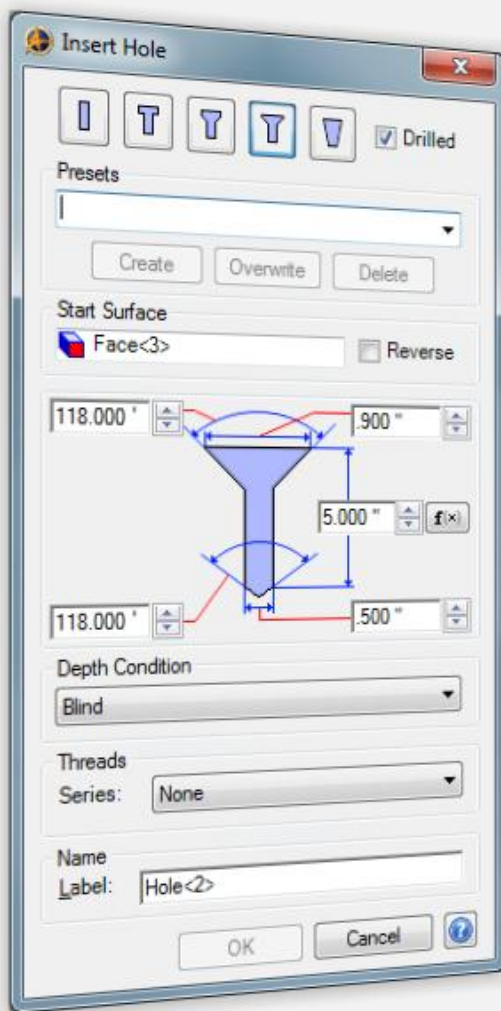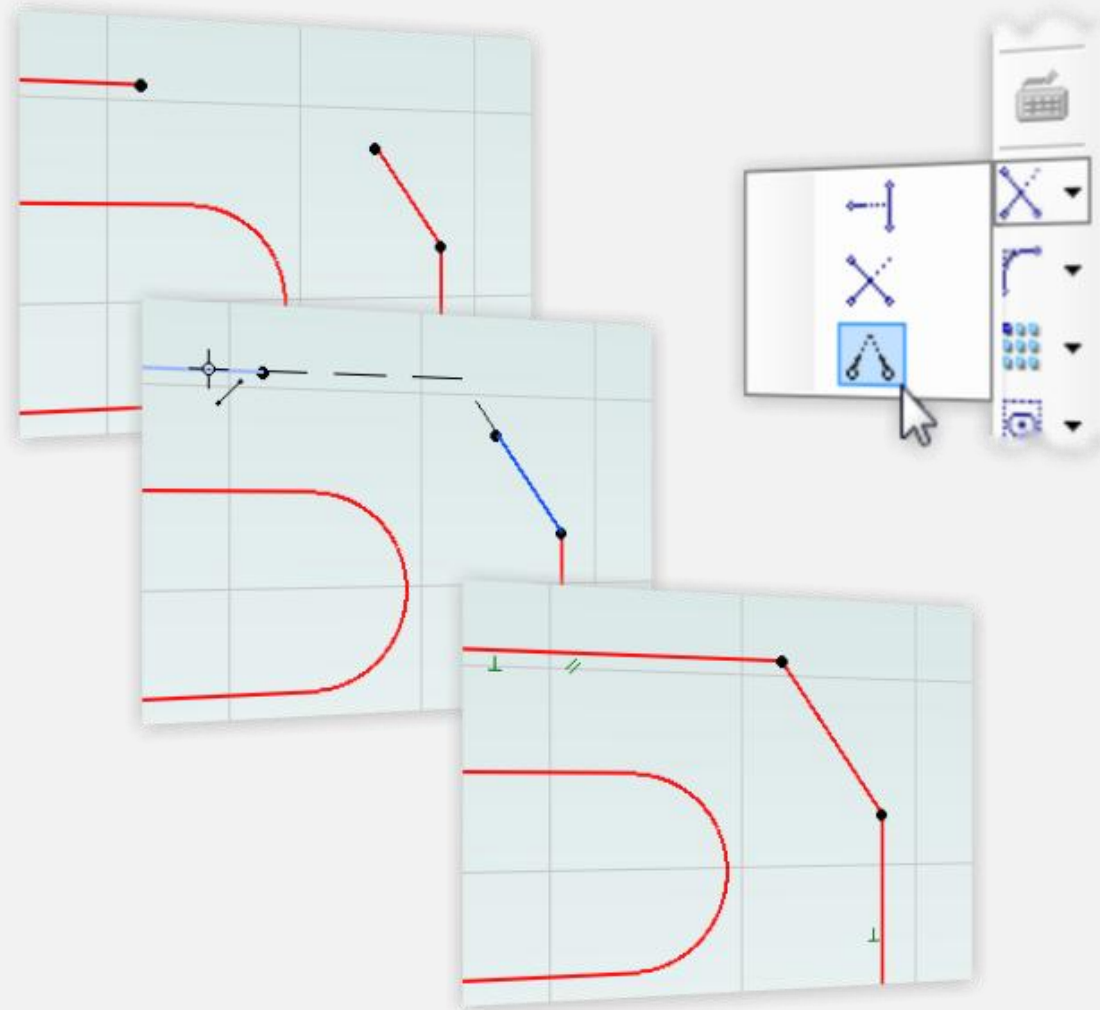
This new tool is a sketch command that allows you to join two figures at their theoretical intersection. The tool has several modes, all completely transparent to you, which adapts to the types of figures and orientations that you will come across.
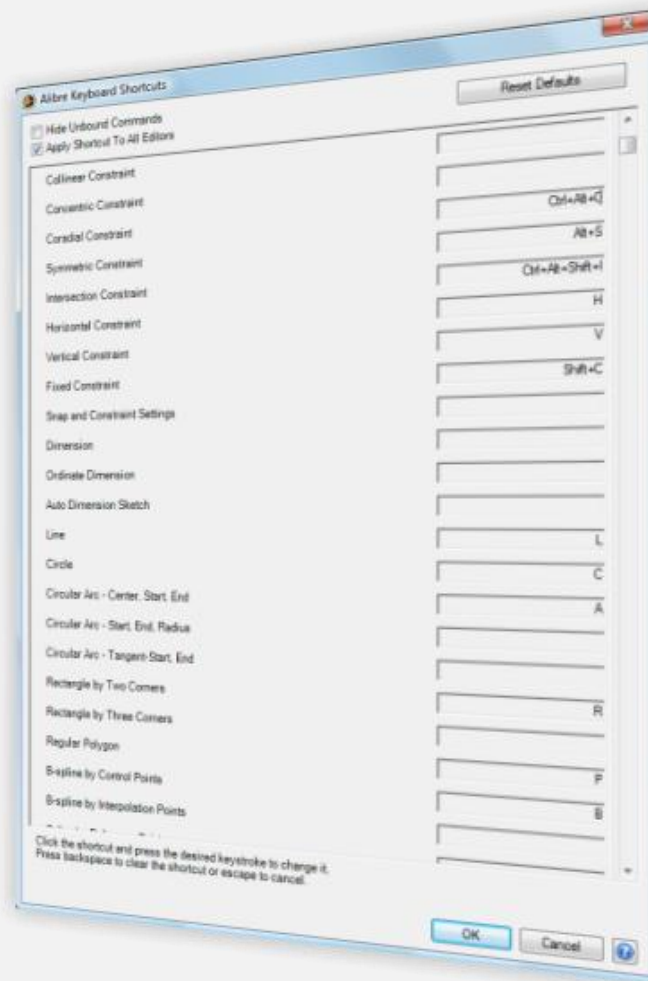
# Keyboard Shortcuts

This is a ridiculous boost to your efficiency. Complete control over every feature and function in Alibre Design via customizable keyboard shortcuts. Press S to get into Sketch Mode. Press L for the line tool. Press M to do a sketch mirror. Press A to analyze. Press E to Extrude Boss. Without touching a toolbar. Customize every key to suit your needs.
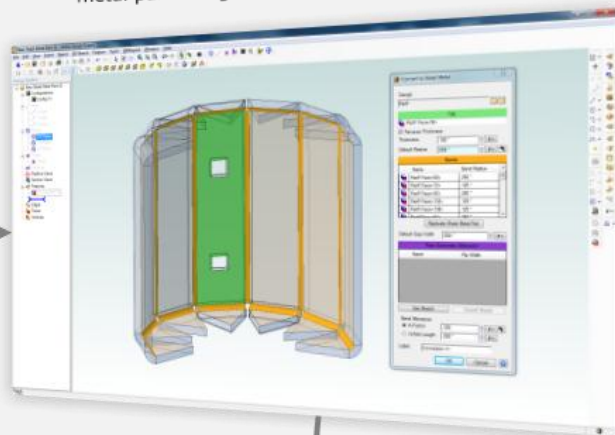
**EXPERT**

This tool radically changes how Alibre Design handles sheet metal design. You are no longer restricted to creating sheet metal parts exclusively within the sheet metal workspace. Now you can model the design in a part workspace or use an imported file and automatically convert it into an unfoldable sheet metal part. Of course, the design is fully associative so if you change the original, the sheet metal version will update automatically.

Native Alibre Design Parts
Imported STEP/IGES/SAT/etc.
Imported SolidWorks/Pro/Catia/etc.
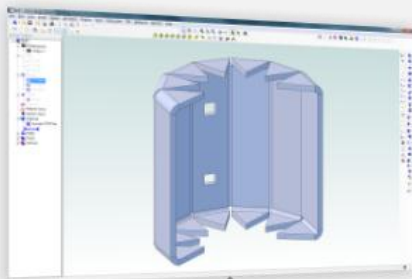


Manually or automatically convert the item into an unfoldable, native Alibre Design sheet metal part using the wizard.

Enjoy the native SMP editing in Alibre Design. Create flat patterns, explode the conversion into its individual features, modify the part, change its thickness...etc.
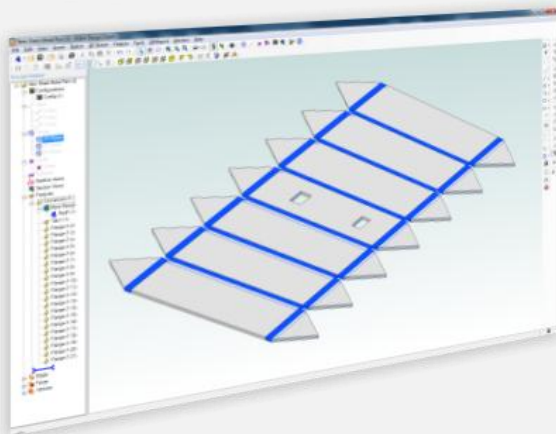
# Multi-Plane Creation

PE     PRO     EXPERT

This is a great enhancement that's especially useful for those who frequently create lofts from cross-section data. From within the Insert Plane dialog you can automatically create fully associative planes. Changing the offset parameter in the equation editor after the fact will update all the planes automatically, allowing a fine degree of control.
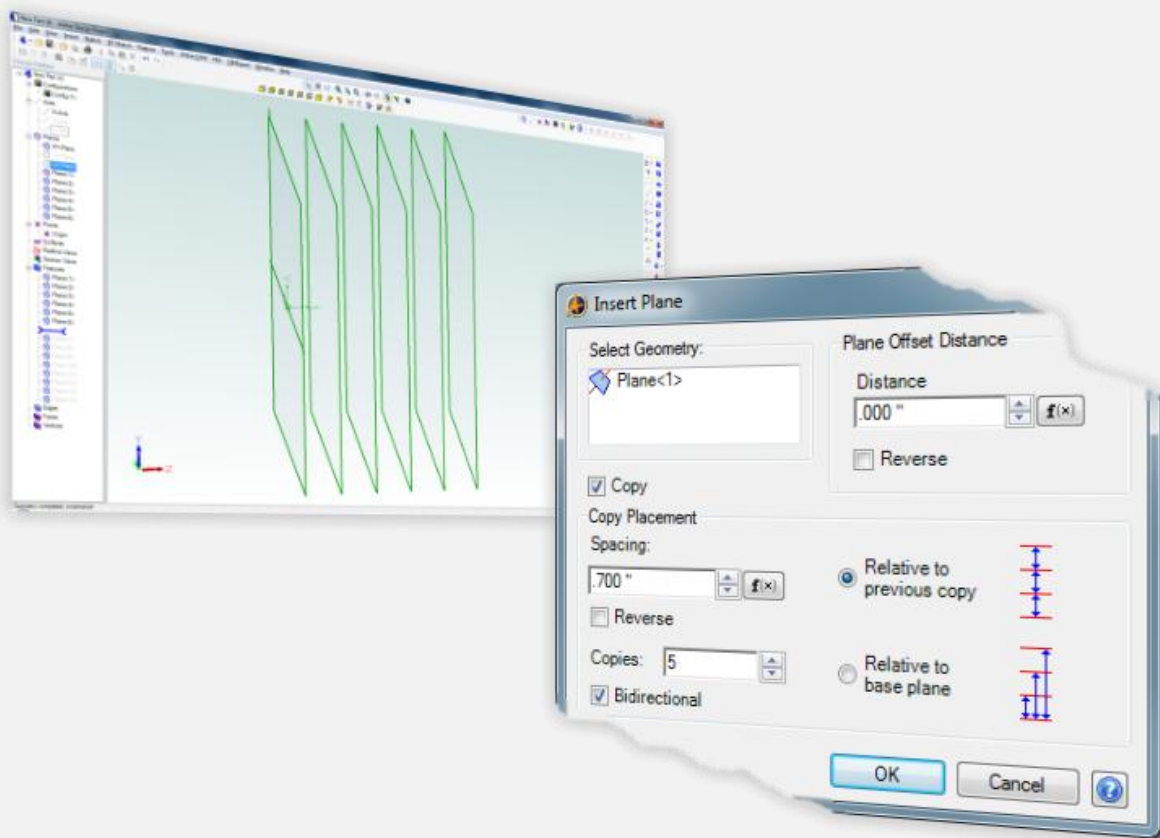
# Scale or Mirror Part

PE    **PRO**    **EXPERT**

In earlier versions there was no tool to mirror a part and it had to be accomplished using an obscure workaround that wasn't easy to figure out. Now, the Scale dialog has been changed to Scale or Mirror part, providing a quick and easy way to accomplish part mirrors for left/right handed versions. Especially useful when combined with Design Configurations (Expert only), this tool can make quick work of mirrored designs.
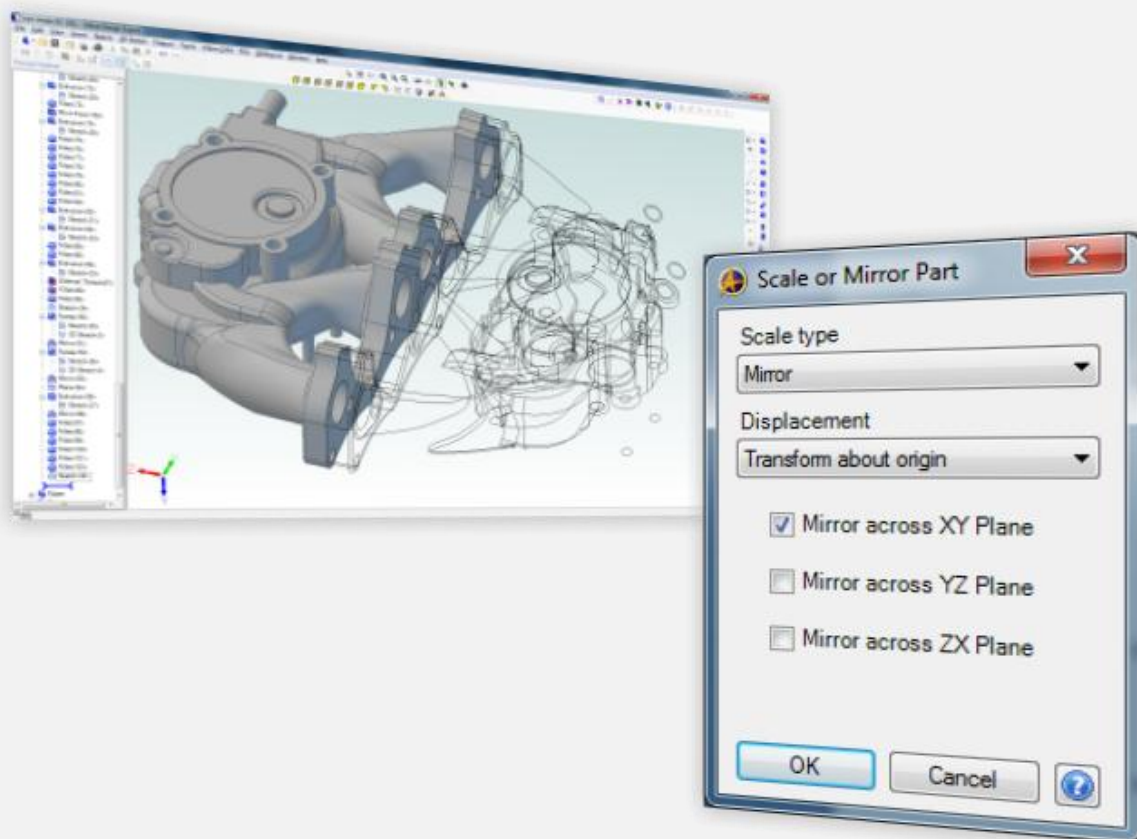
# Replace Component

| PE | PRO | EXPERT |
|----|-----|--------|

If you've ever needed this before, you know what a time saver it will be. Replace Component allows you to select a part or subassembly and then select an item to replace it inside an assembly context. Several options make the process quick and easy, including the ability to remove all previous constraints acting on the replaced parts or to keep them and reassociate only the constraints that might fail after the replace operation.
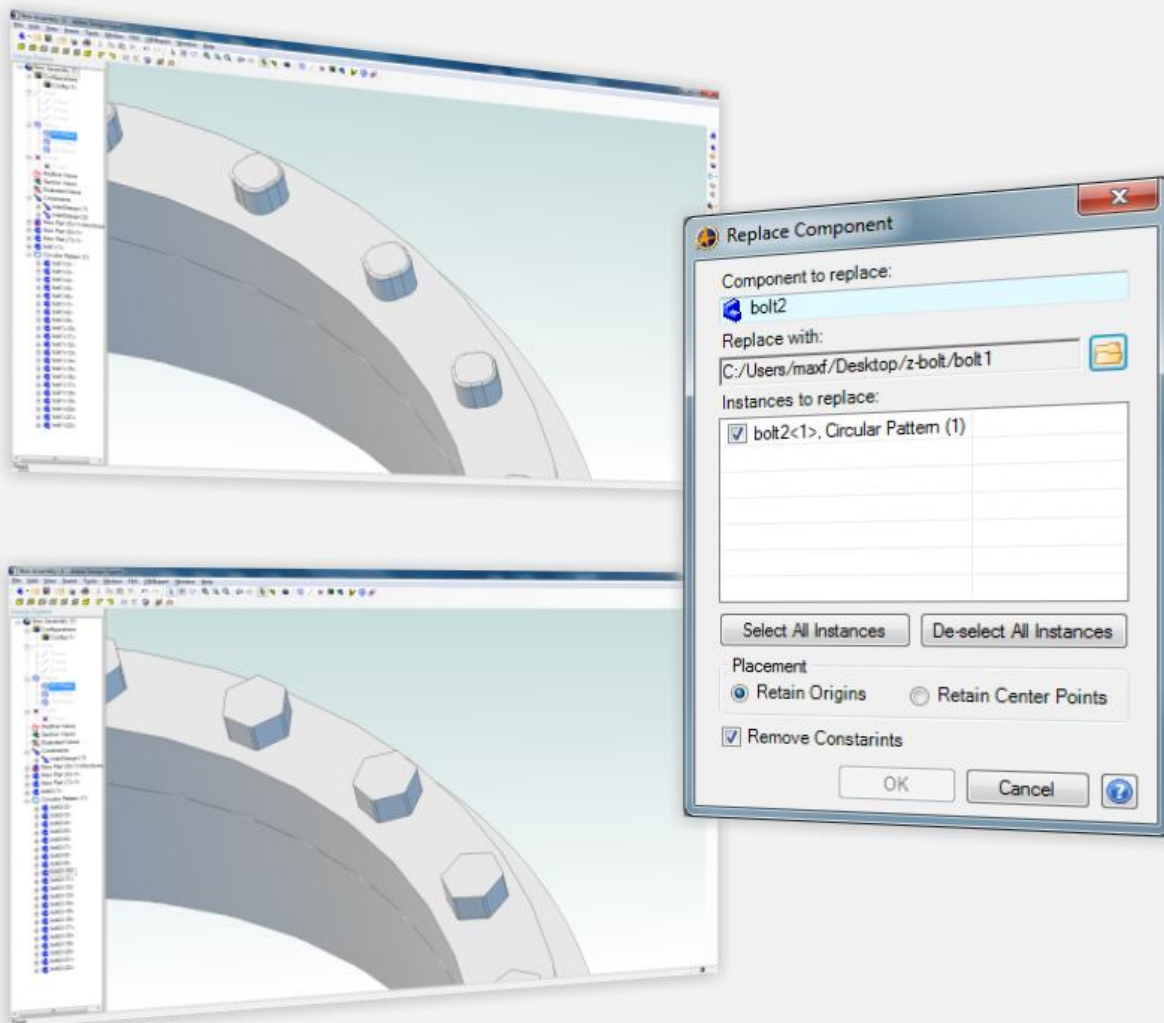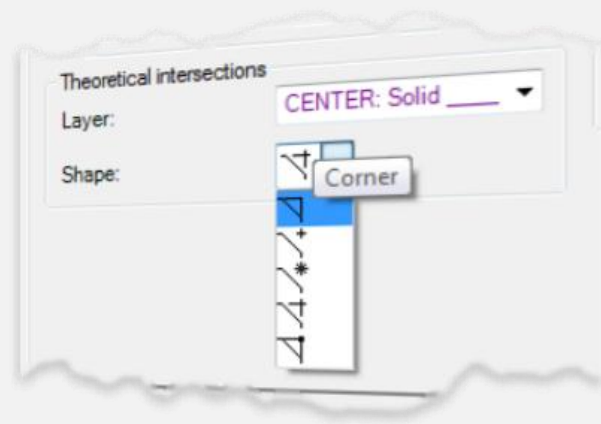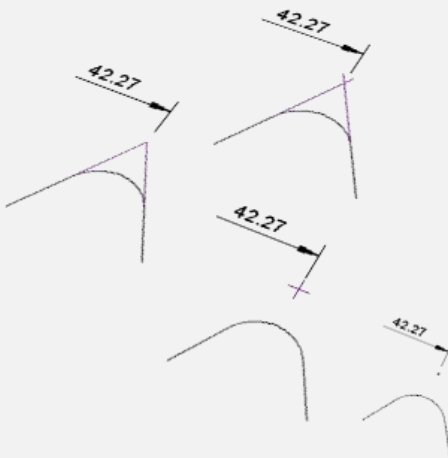
# Theoretical Intersections

New in 2011 is a new 2D tool that allows you to select 2 figures and create an annotation at their theoretical intersection. Dimension to the intersection point by simply clicking on the intersection symbol with the dimension tool active.
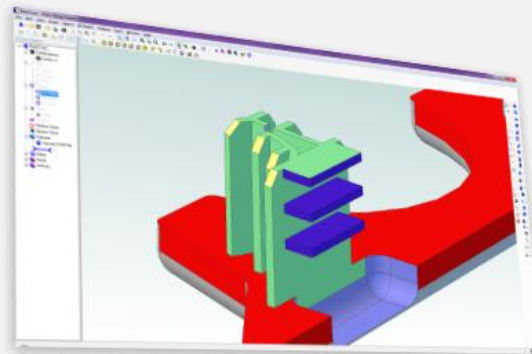


# STEP Color Import/Export

In Alibre Design 2011 STEP colors are now imported and exported in parts and assemblies. Imported colors are based on the colors defined in the STEP file. Exported colors are based on the Feature Color feature in Alibre Design and/or colors used if a file was imported.
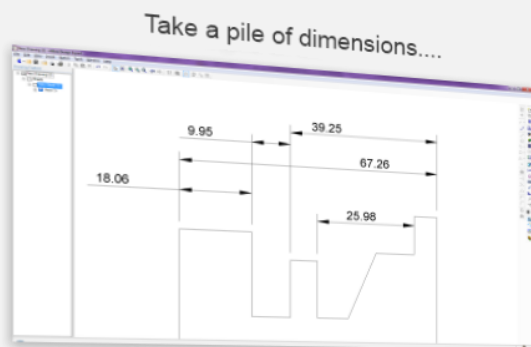
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This tool is awesome. It allows you to select a group of dimensions and automatically position them based on your input. It has 2 modes: constant offset, or initial + constant. You can make quick work of getting dimensions exactly how they need to be. The tool does 3 things simultaneously:

1) Center the dimensions
2) Offsets the dimensions from the target figure and from each other
3) Positions the dimensions relative to each other in an intelligent way

Take a pile of dimensions....



...and auto offset and center them in a single command.



○ Constant
○ Initial + Secondary

7.29 mm
ProjectedSegment<2>
☐ Reverse
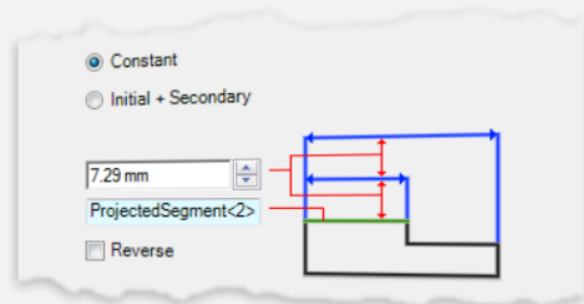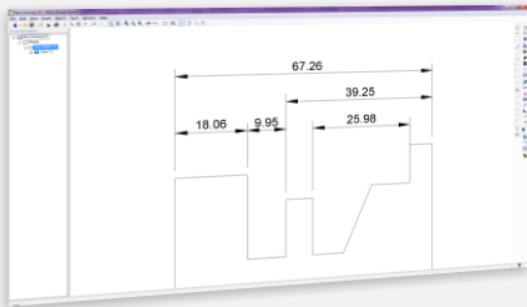
PE    PRO    EXPERT

This is the introduction of a new way of working in Alibre Design. Eventually to be deployed in various forms throughout the product, In-Place Editing makes its debut in the 2D Drawing workspace in Alibre Design 2011. The idea is simple for features utilizing the In-Place Editing framework: minimize mouse travel, minimize mouse clicks, make only applicable tools available immediately at the mouse, and make everything update in real time. In essence it's the ultimate efficiency boost. Below is an example of how the tool is used…



Example toolset - tools shown are based on selection combinations.

Select something...

...the menu pops up at your cursor...

...use any of the tools and see updates in real time...

...move mouse away from tool to close it.
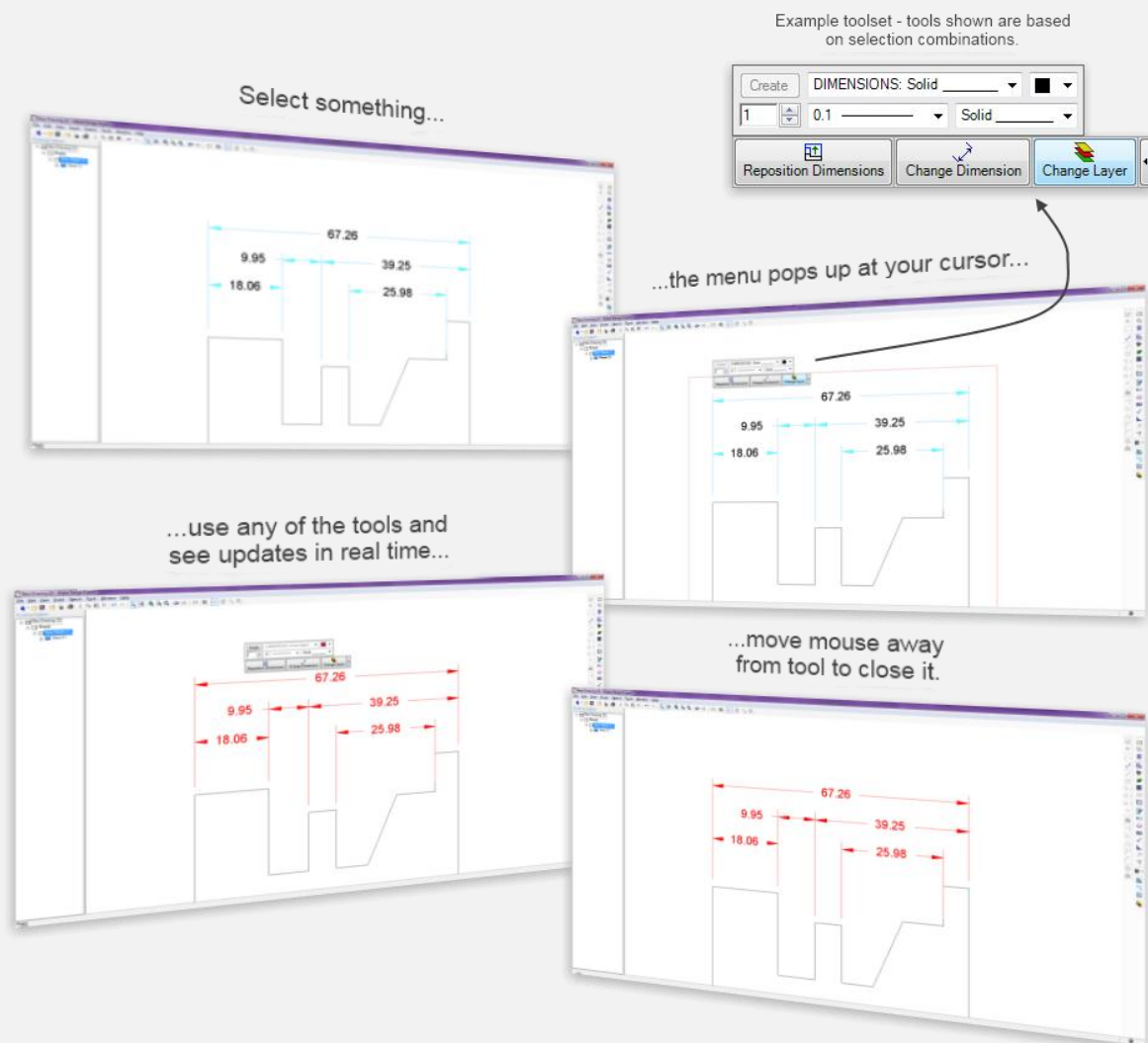
PE PRO EXPERT

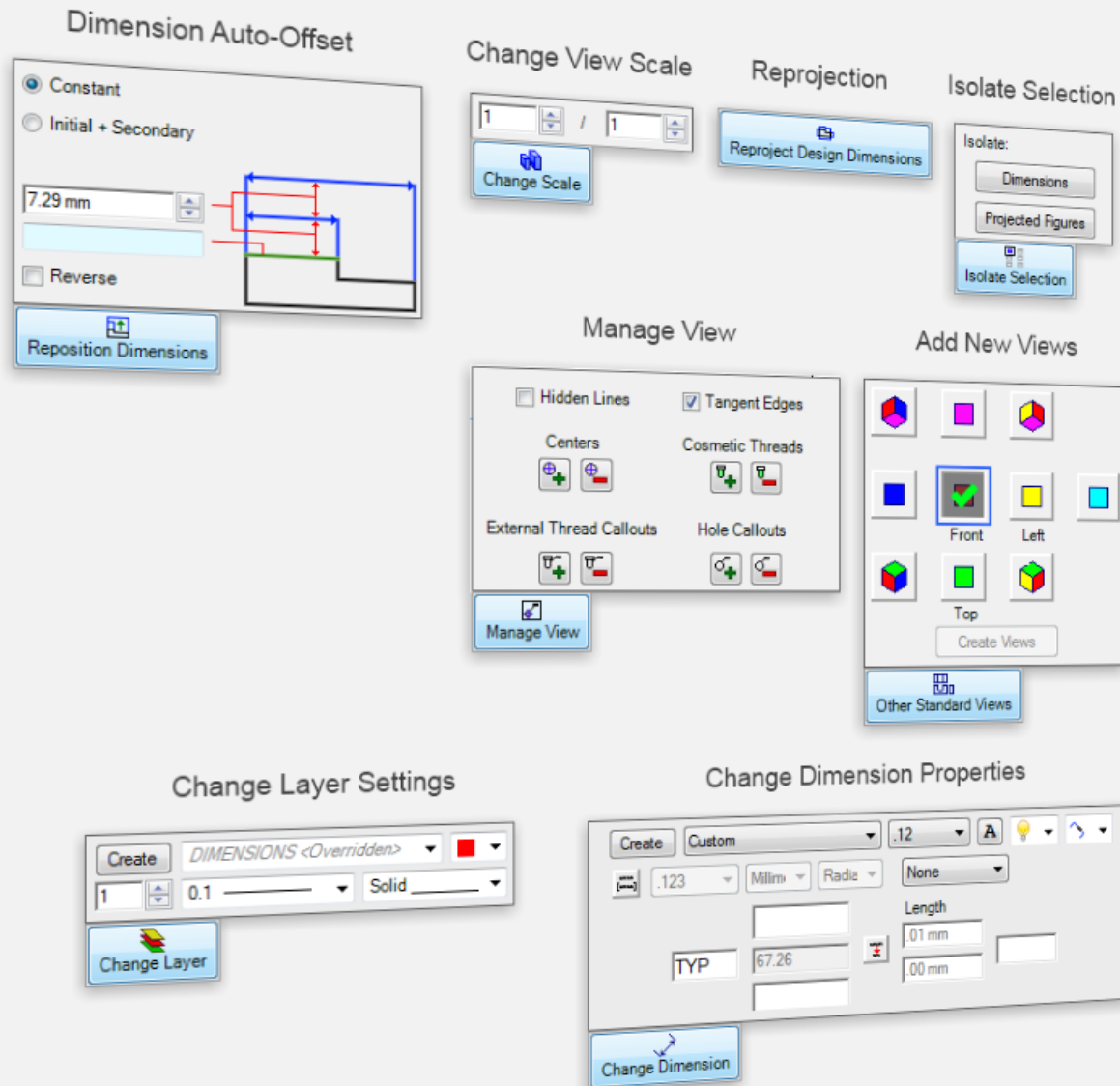Below is a list of the current functionality that is represented by the In-Place Editing framework. Each tool is smart, so it knows when it shouldn't show up on the In-Place toolbar. Only commands that are applicable are inserted onto the toolbar.

**Dimension Auto-Offset**

- ◉ Constant
- ○ Initial + Secondary

7.29 mm

☐ Reverse

Reposition Dimensions

**Change View Scale**

1 / 1

Change Scale

**Reprojection**

Reproject Design Dimensions

**Isolate Selection**

Isolate:
- Dimensions
- Projected Figures

Isolate Selection

**Manage View**

- ☐ Hidden Lines
- ☑ Tangent Edges

Centers

Cosmetic Threads

External Thread Callouts

Hole Callouts

Manage View

**Add New Views**

Front   Left

Top

Create Views

Other Standard Views

**Change Layer Settings**

Create   DIMENSIONS <Overridden>

1   0.1 ———   Solid ———

Change Layer

**Change Dimension Properties**

Create   Custom   .12   A

.123   Millim   Radia   None

Length
.01 mm

TYP   67.26   .00 mm

Change Dimension

# Vault Property Integration

Tool is available if you have access to the Alibre Vault

With Alibre Design 2011 comes even tighter integration with the Alibre Vault. You can now use any properties on a Vault data card and insert those properties into a 2D drawing. This brings the full power of the Alibre Vault into the 2D environment, removing the restriction of using the built-in Alibre properties when creating dynamic property fields. As usual, all fields update whenever a change is made within the Alibre Vault.