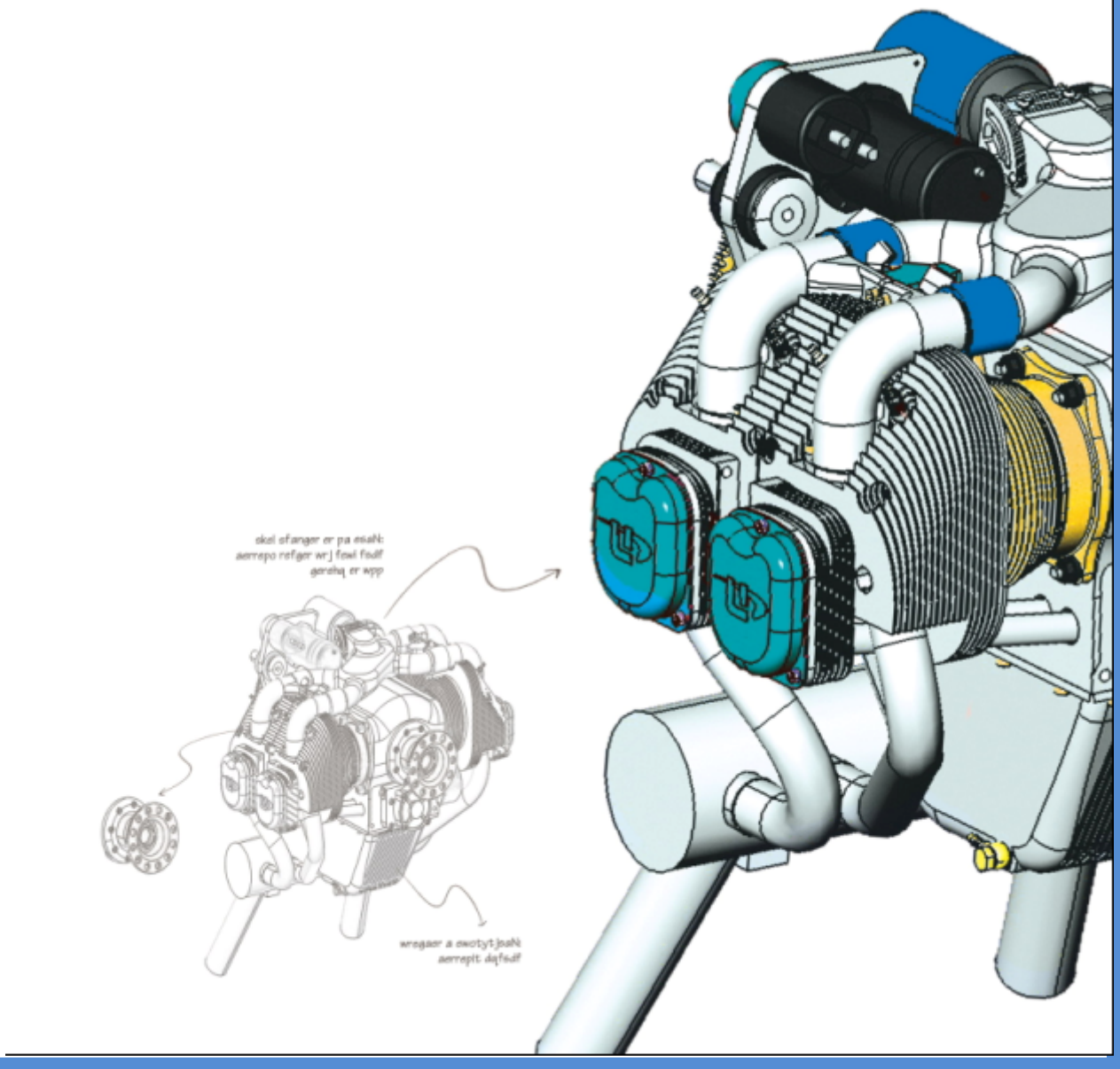
ZW 3D

All-in-one CAD/CAM

ZW3D 2011 New Features



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INTRODUCTION TO ZW3D 2011

ZW3D 2011 boasts two new exciting CAD/CAM breakthrough technologies that will enhance the user experience and improve overall productivity. First of all, ZWSOFT created a brand new Direct Edit Design paradigm that is integrated into the existing architecture. Users won't have to learn new methods, but will gain speed with their existing ways of working. The new Direct Edit tools also work seamlessly with history-based modeling giving the user the best of both worlds.

The second technology, Auto Feature Machining, dramatically reduces the time required to program complex 3D parts. The purpose of this is to create a fully-efficient machining plan based on automatically detected features and optimized tool and strategy selection. Users then have the option of "tweaking" the results to get exactly what they need for downstream productivity on the shop floor.

New Features	Improved Features
SmoothFlow™ Direct Edit	Improvements to DWG import/export
Dynamic Dimensions	Upgrade the Fillet Engine
QuickEdit	More Efficient NURBs
SmartPick	View-aligned dimensions
SnapPick	Regenable chain pick
New Broken Views	Editable point handles
Shaded Previews for more 3D Commands	Improved Hole table management
New Visualize Manager	Improved Creation of Slides and Inserts
Integrated PartSolutions Library	Improved Creation of Blank For Electrodes
Core & Cavity calculation in one step	Toolset Optimization
Automatic feature recognition	Strategy Optimization

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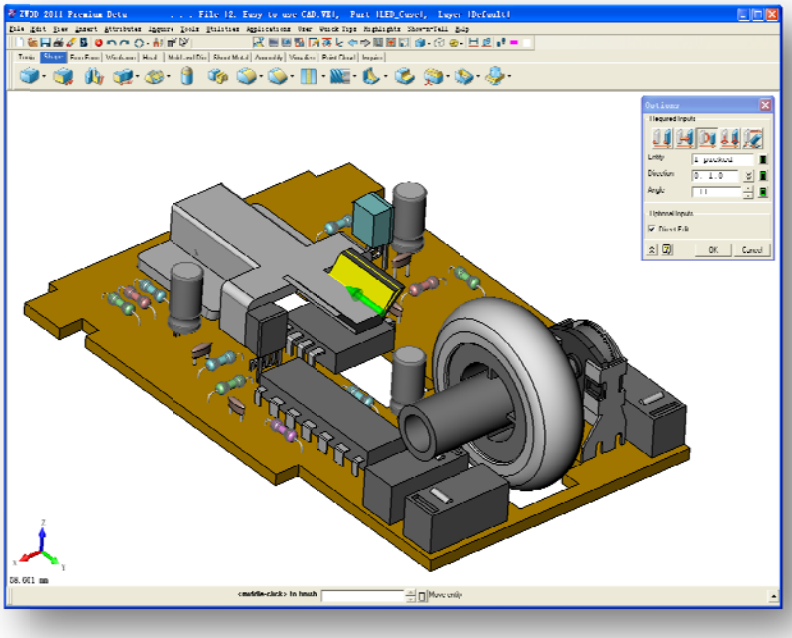
1. MODELING INNOVATIONS

1.1 SMOOTHFLOW™ DIRECT EDIT

ZW3D 2011 features a next generation 3D SmoothFlow design paradigm. SmoothFlow will make ZW3D 2011 the fastest, most effective 3D CAD system available anywhere. It combines the speed and flexibility of direct modeling with the precise control of dimension-driven designs, without losing the features and functionality of history-based modeling. You can modify features quickly and effectively on native or imported geometry without history regeneration.



1.2 DYNAMIC DIMENSIONS

You can use the grab and drag 3D dimensions for quick shape modification and you get immediate visual feedback. This fluidly allows construction of 3D geometry with parametric dimensions because they are automatically created during the design process.

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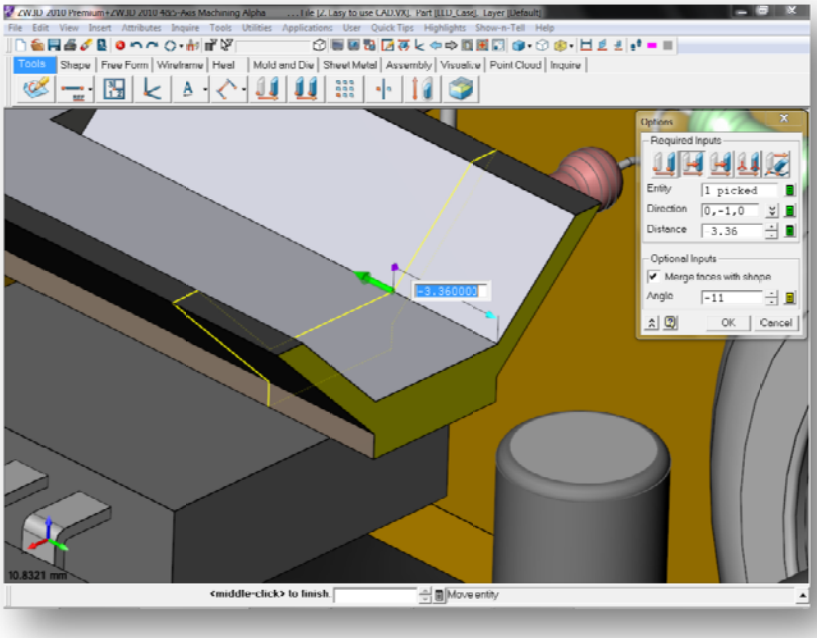
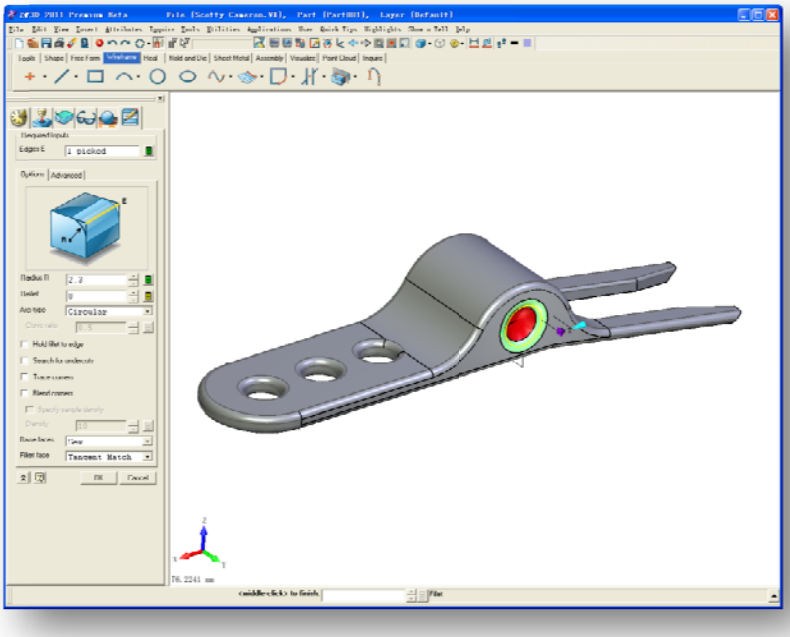


1.3 QUICKEDIT

This new technique streamlines shape creation and editing. Edit imported data as if it were native to ZW3D and make changes faster than competitors can with their own geometry! With QuickEdit, you don't have to pre-select an editing tool, because now these commands are at your fingertips. For example, if you touch a part's face or edge and simply right-click the mouse button, you can choose from a list of common tools, like fillet, offset or move.. This context-sensitive approach makes designing and editing part geometry intuitive and quick.



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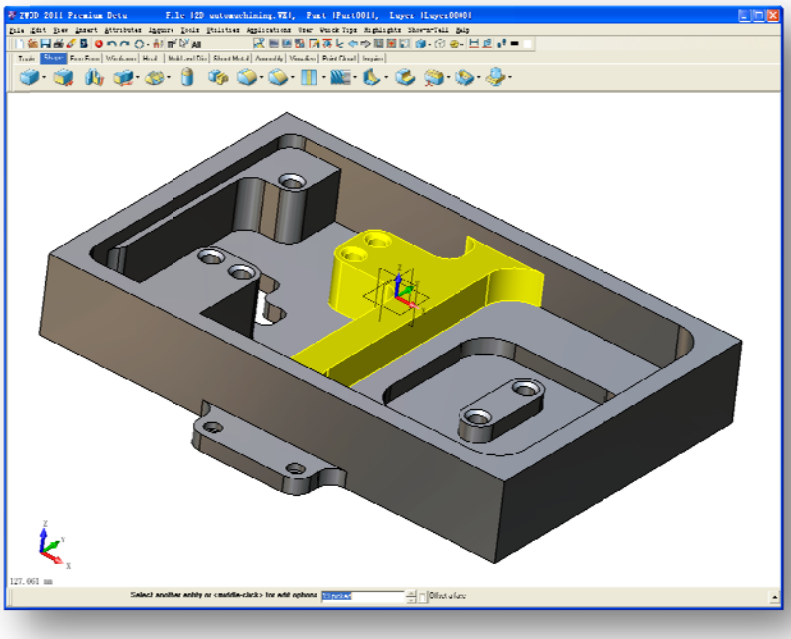
1.4 SMARTPICK

With this time-saving feature, users can select features likes ribs, bosses or pockets simply by using a Shift-Left Mouse Click. It is simple to identify features, even on imported geometry. SmartPick makes selecting quick and easy!



1.5 SNAPPICK

This new option takes a point pick and automatically drives it from intersections, critical points, and axis directions. It's like having an intelligent helper built into your CAD system that makes it easier to create mechanical parts, 3D sketches, and features.

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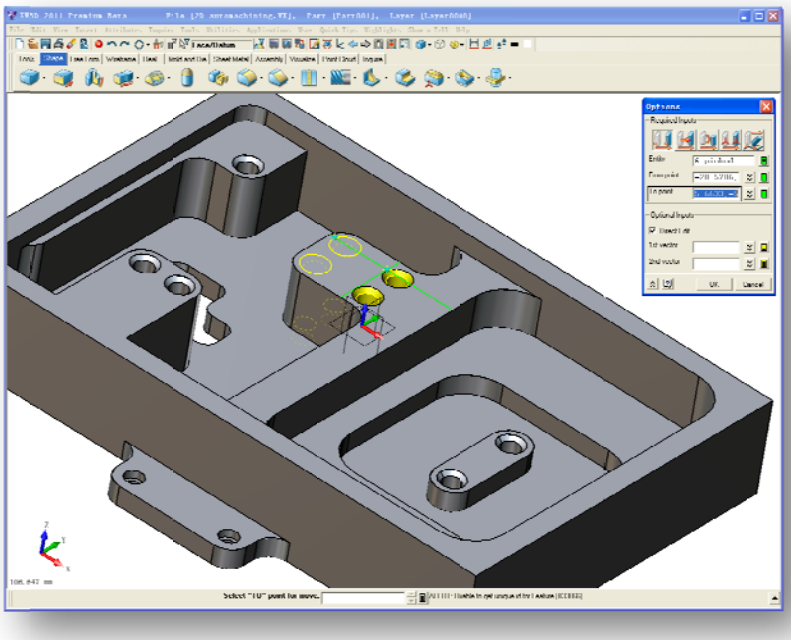

2. MODELING ENHANCEMENTS

2.1 NEW BROKEN VIEW

You can now define broken views on a 2D drawing. This makes it possible to display the drawing view in a larger scale on a smaller size drawing sheet. This is great for detailing long parts or assemblies. You create a gap or break in the view using a pair of break lines. The reference dimensions and model dimensions associated with the broken area reflect the actual model sizes.

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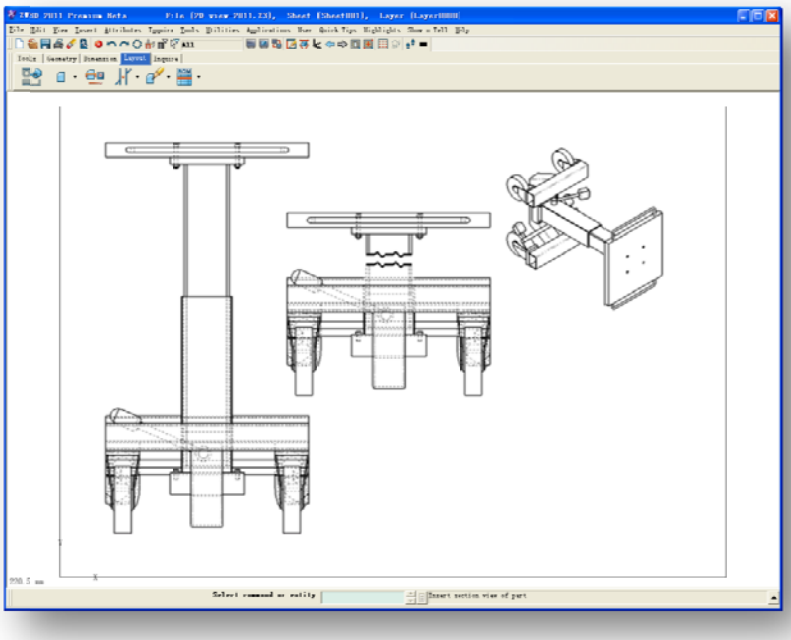
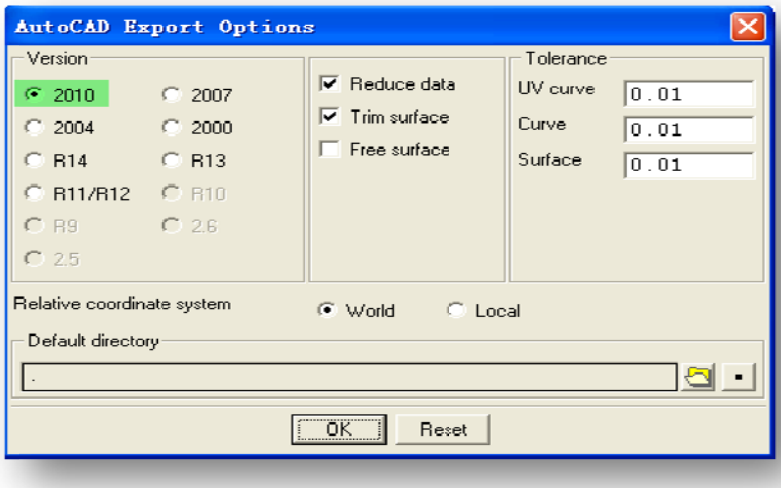


2.2 IMPROVEMENTS TO DWG IMPORT/EXPORT

AutoCAD 2010 version is supported when exporting the DWG or DXF file. The data exchange combined with the TransMagic has a greatly improved.



2.3 UPGRADE THE FILLET ENGINE

The new fillet modeling engine works more reliably in a multitude of more complex, difficult filleting cases where previously users had to manually intervene. This makes modeling of consumer and other aesthetic parts faster and more reliable!

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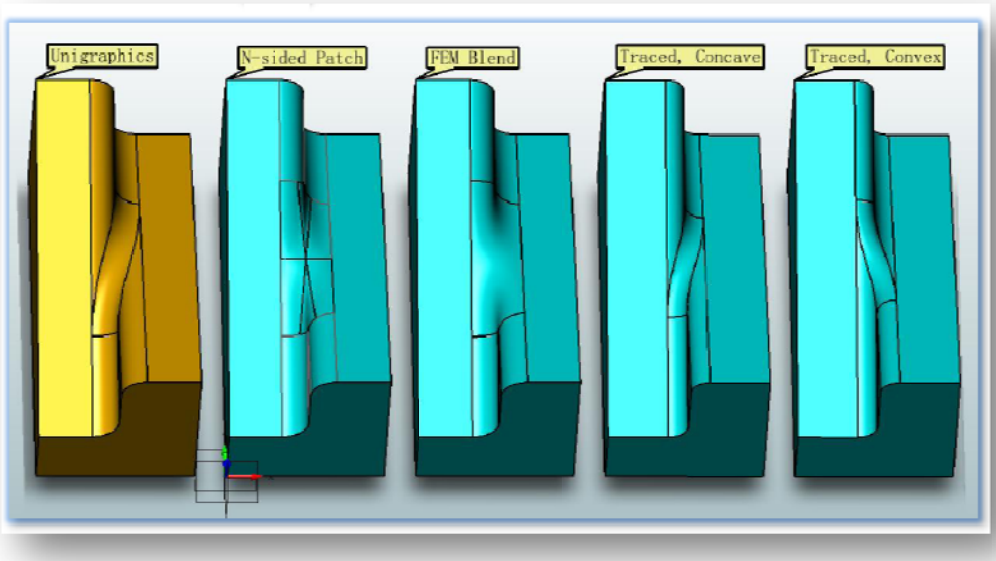
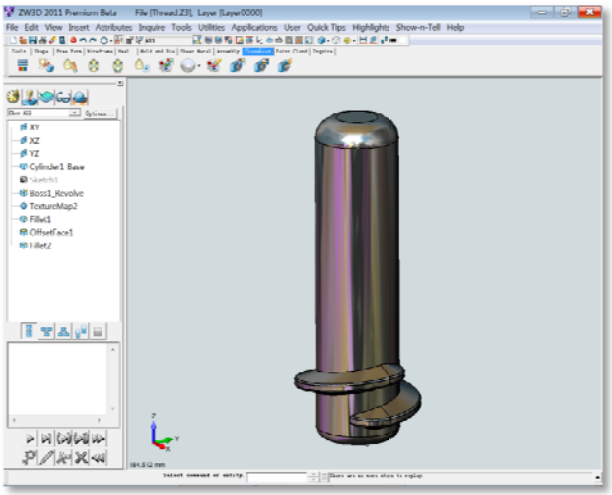
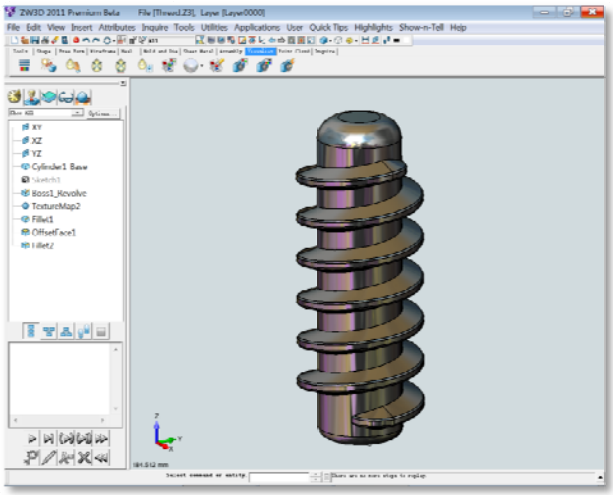


2.4 More Efficient NURBs

In previous versions of ZW3D, customers complained that NURB features such as external threads (shown below) were inefficient and took up too much file space. We have made significant improvements in the efficiency of our NURB features so now they are more compact. The new configuration option will automatically compact the sweep surface data if it is picked. This saves disc file space and will speed up the design process.





2.5 View-aligned dimensions for 3D features and sketches

The visible dimensions are aligned to the screen and keep an equal size and position relative to the screen when the part is rotated or zoomed. They are very clear to see and makes working with the model very easy.

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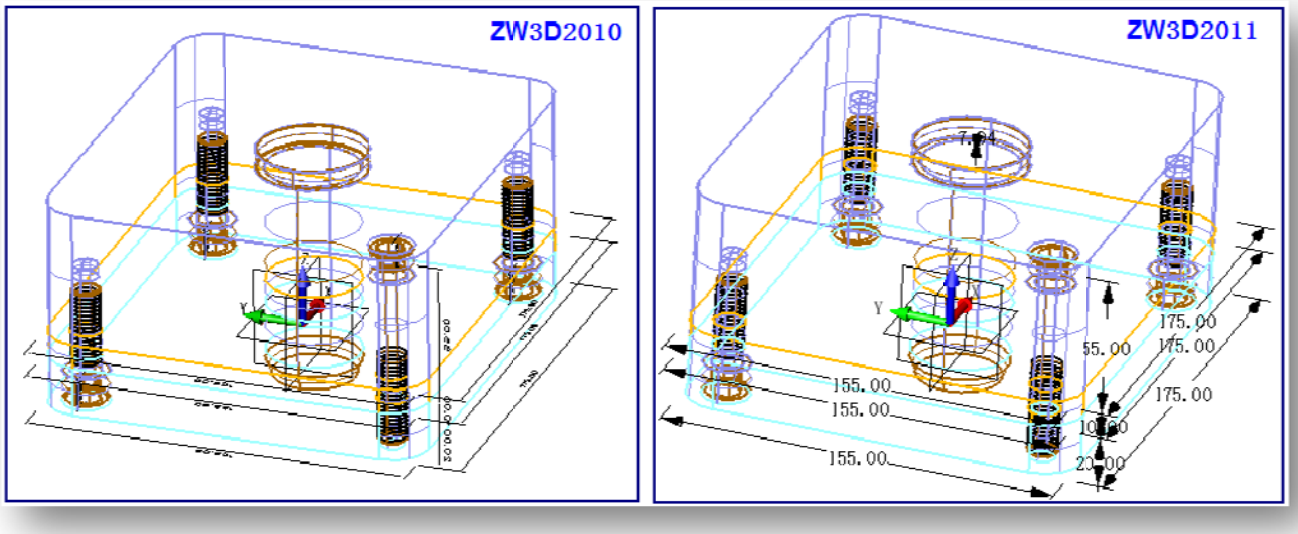
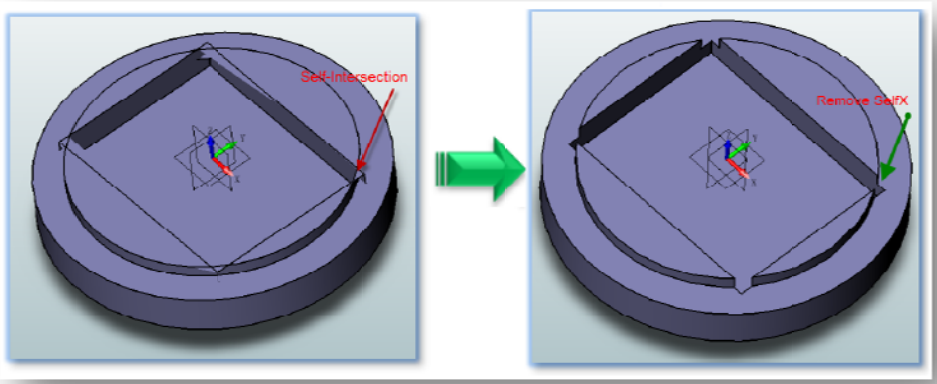


2.6 IMPROVED HANDLING OF GLOBAL SELF INTERSECTIONS

This improved function can efficiently deal with the global self-intersection to get better parts.



2.7 REGENABLE CHAIN PICK

Enhanced pick functions make it easy to pick features and edit them, so operations become more friendly.

(1) The Quick Chain Pick located on the right mouse button allows you to pick many features without holding down the Shift button.

(2) New commands using the Regenable Pick function will update the geometry if the picked edges are changed or new edges are introduced

(3) 'Face Regions' is replaced by 'Pick Faces' command in which the five new pick methods are added.

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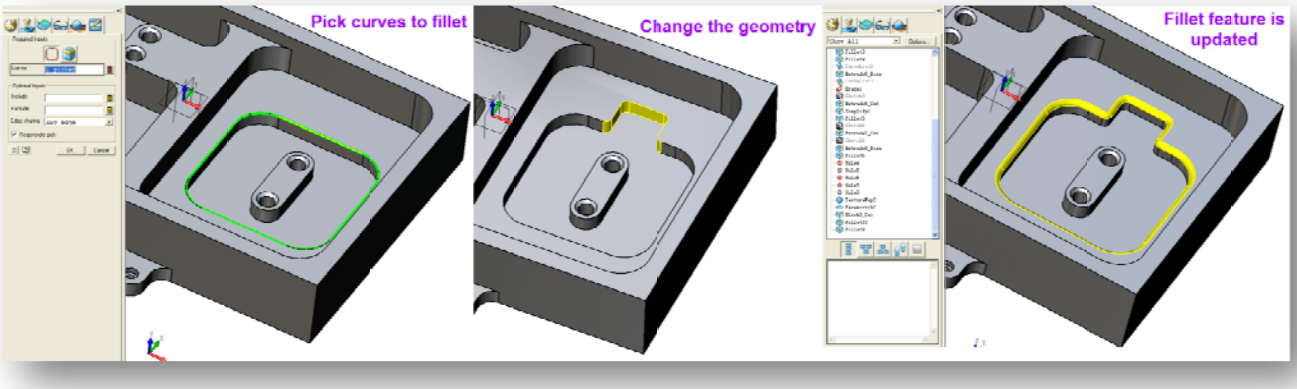
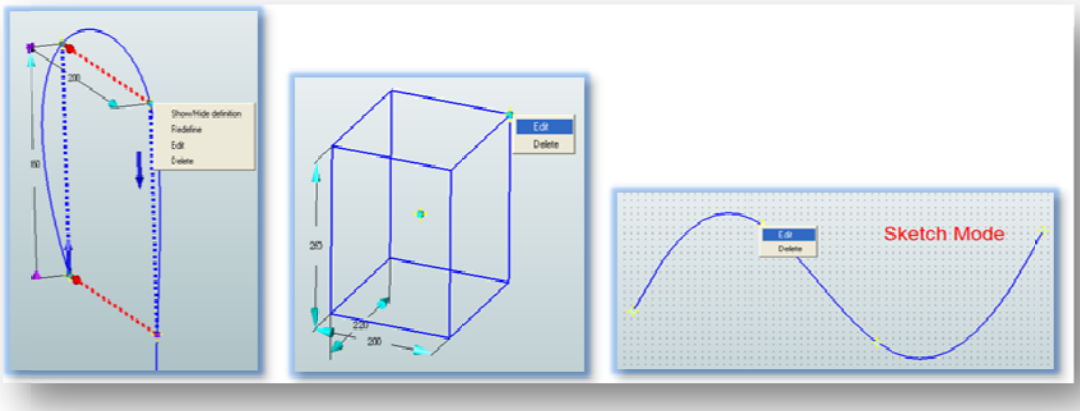


2.8 EDITABLE POINT HANDLES

Previously, the only way to modify a single point in a list of point inputs was to delete all the points and enter them again. The improved point function allows you to directly pick and edit any point in the list with a simple right-click of the mouse.



3. IMPROVED GUI AND DISPLAY

3.1 NEW ICONS AND INTERFACE

New icons with more stereoscopic effect and more beautiful interface give you a better felling to design part. Merged some related commands to optimize the interface and searching easier. It is a great improvement of the end-user experience. The following is a list of merged commands:

1) Four commands located in the Tools toolbar(Move Entities Along A Direction, Move Entities From Point To Point, Move Entities By Aligning Frames, Move Entities Along Curve)are merged into the Move geometry command.
2) Five commands located in the Tool toolbar(Copy Entities From Point To Point, Copy Entities Along A Direction, Rotate, Copy Entities By Aligning Frames, Copy Entities Along a

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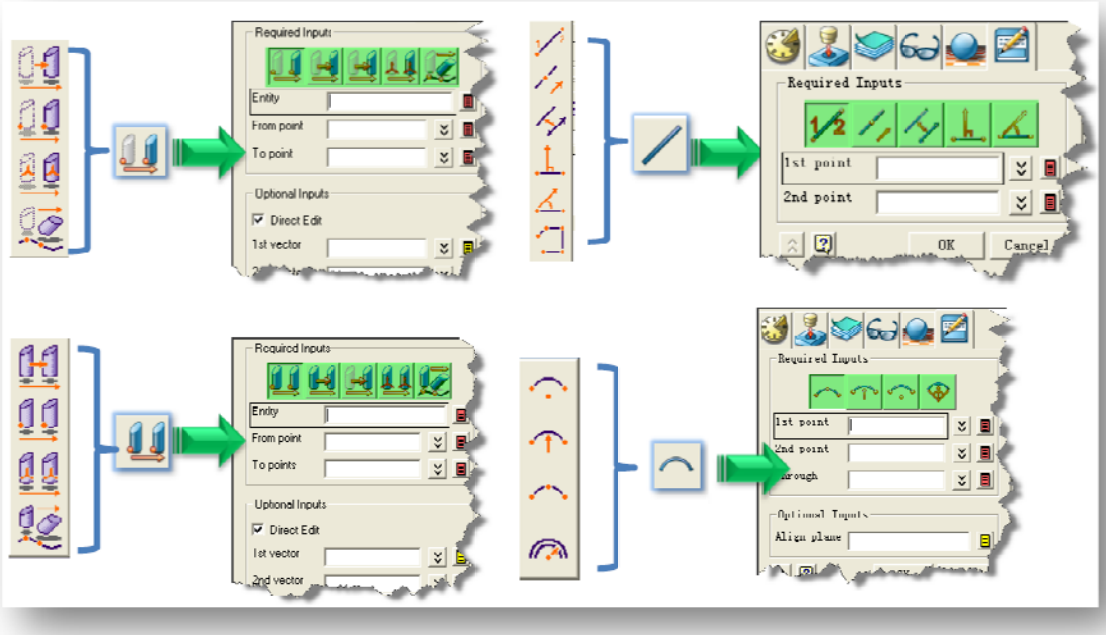
path) are merged into the Copy geometry command.

3) Five commands located in the Wireframe toolbar(2 Point Line, Line Along Direction, Parallel Line, Perpendicular Line, Angled Line) are merged into the Line command.
4) Four commands located in the Wireframe toolbar(Center Arc, Radius Arc, Through Arc, Angle Arc) are merged into the Arc command.



3.2 NEW VISUALIZE MANAGER

In order to make it easier to create real life renderings and to better see complex part geometry, ZW3D 2011 features an all-new way to control the visual environment.

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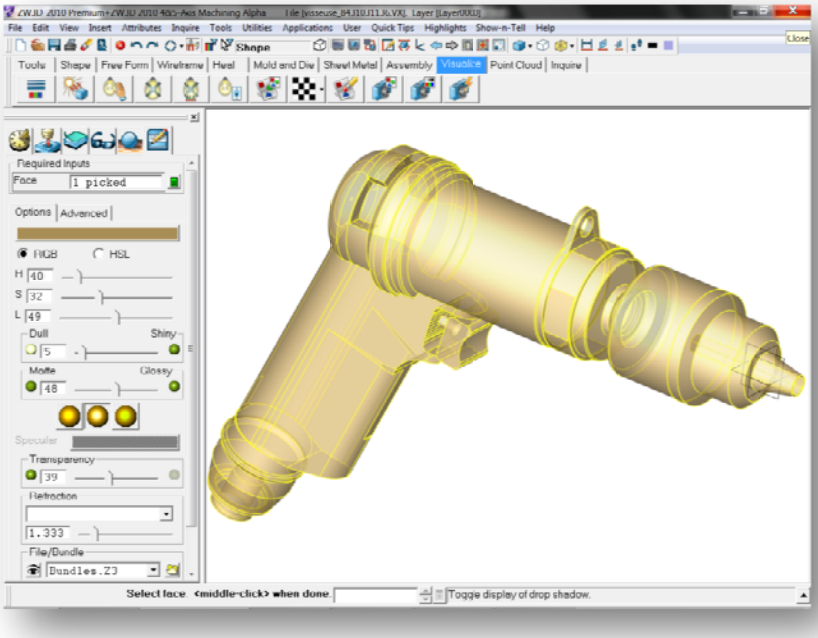
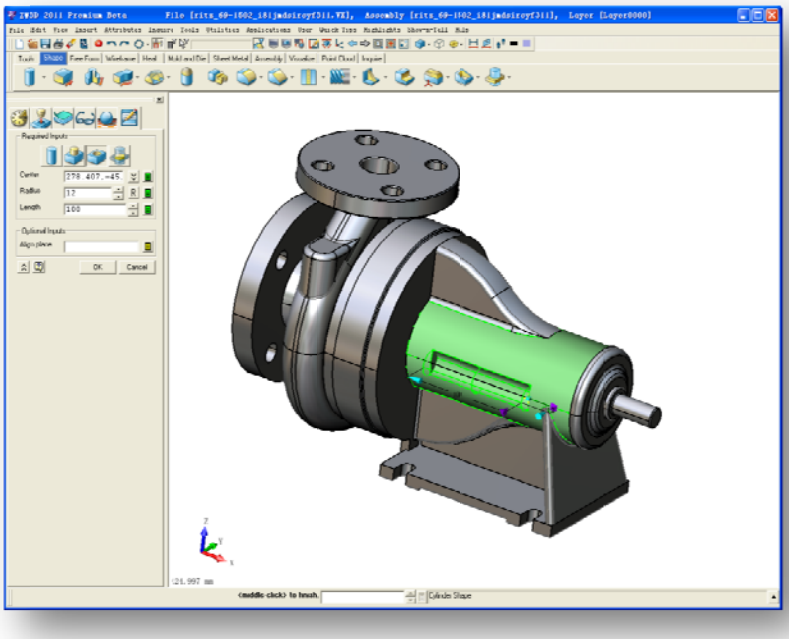


3.3 SHADED PREVIEWS FOR MORE 3D COMMANDS

What you see is what you get! To display more visible results and improve the accuracy, more 3D commands provide the shade preview for the designer.



4. ASSEMBLY

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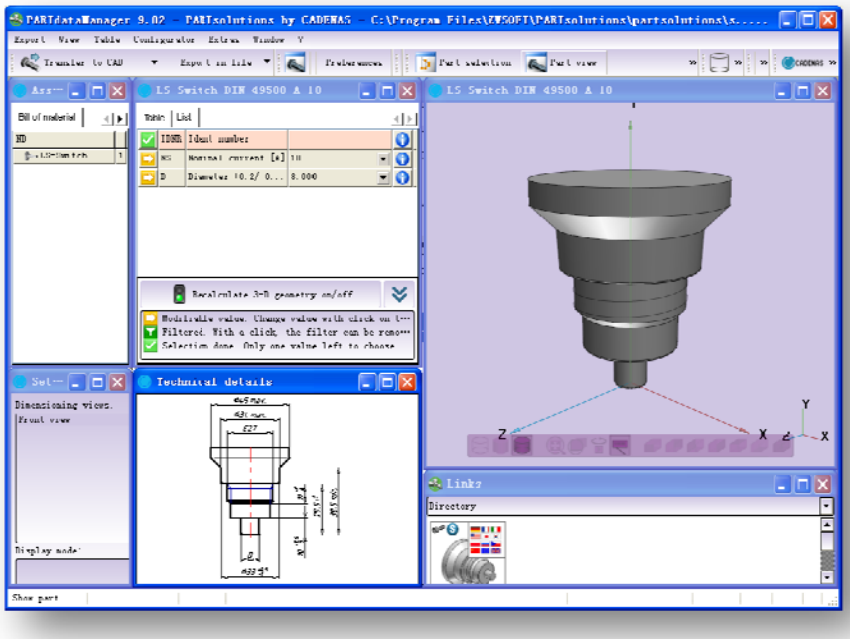
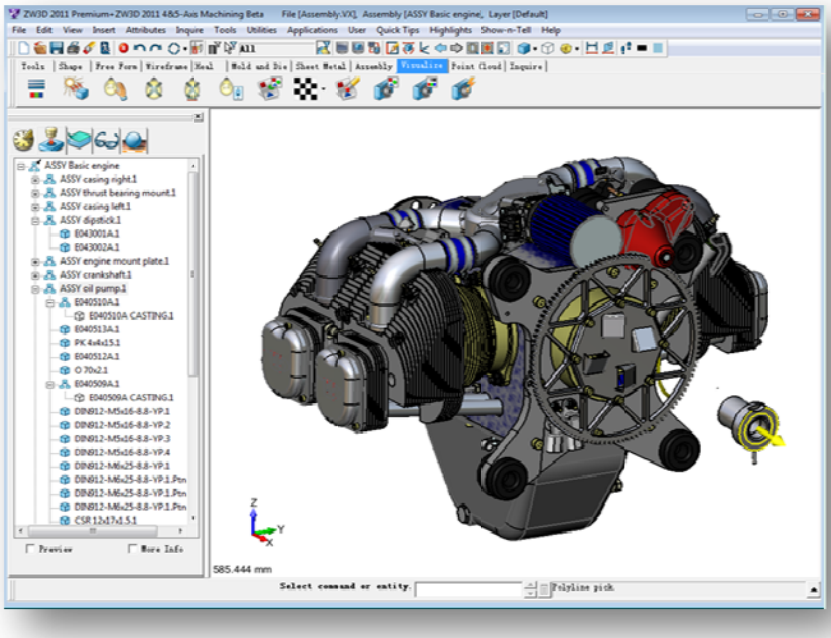
4.1 INTEGRATED PARTSOLUTIONS™ LIBRARY

This new function provides the capability to insert abundant part libraries in ANSI, BSI, CSN, DIN, EN, GB, GOST, ISO, JB, JIS, KS, NF, PN, UNI, etc, including those from famous supplier in the world. It will reduce the time to create models manually and improve work efficiency and accuracy. PartSolutions™ is included at no additional cost.





4.2 IMPROVED TABLE MANAGEMENT

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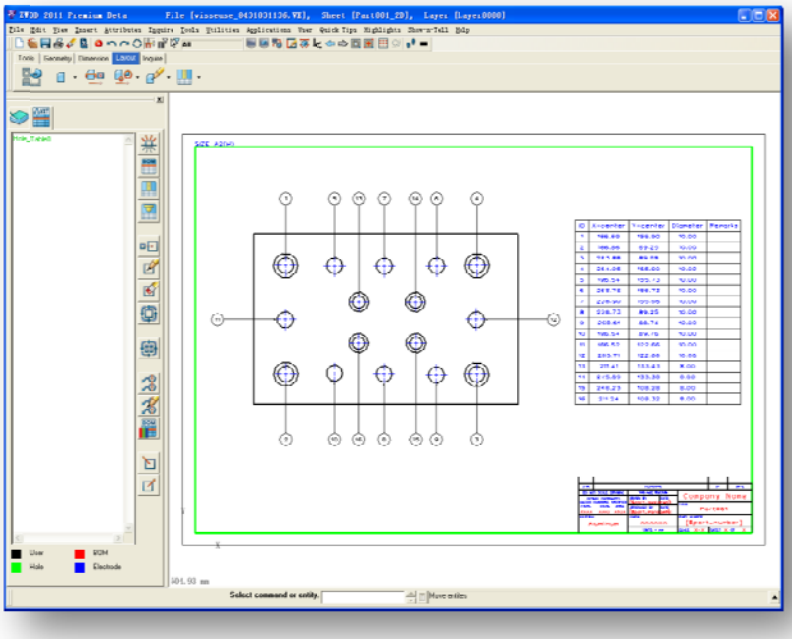
The Hole Table now finds all holes automatically and is combined with the insert hole table function. This greatly raises the efficiency.

The new command—Sync BOM with part attributes allows you to update the 3D part by making changes to the BOM table on the 2D drawing, so you don't have to drill down to the part.



5. MOLD & DIE

5.1 CORE & CAVITY CALCULATION IN ONE STEP

Core and cavity can be created at the same time in one operation. It reduces the time to design molds. It also raises the accuracy compared with the previous version.

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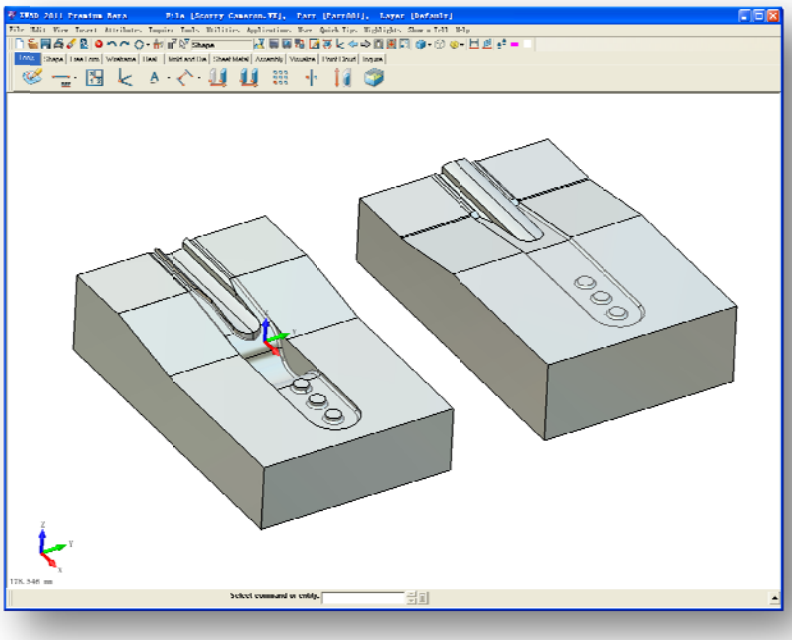
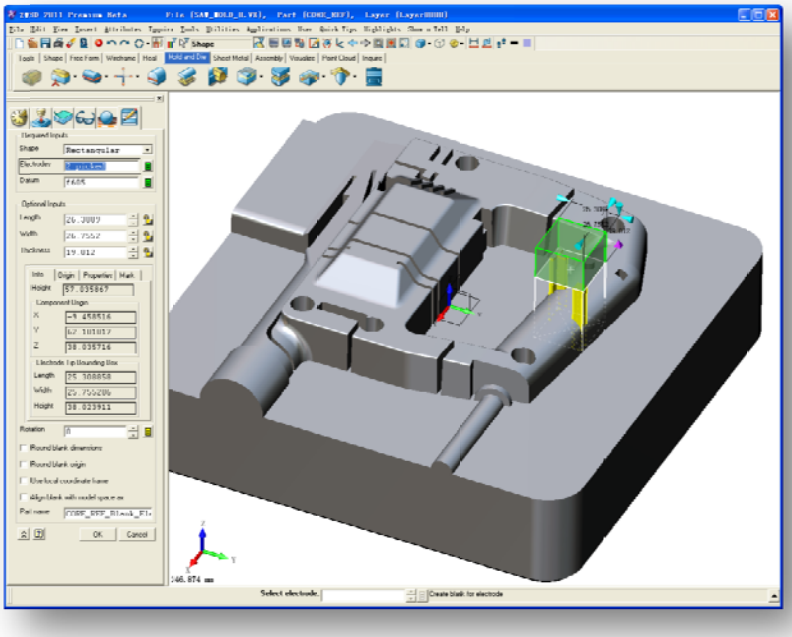


5.2 IMPROVED CREATE THE BLANK FOR ELECTRODES

With this improved command you can create one blank for several electrodes at one time. It greatly raises the efficiency compared with the previous version in which the blank of one electrode just could be created one at a time. To easily control the blank size, new round up and round off options are provided. The name of blank is automatically generated to save design time.



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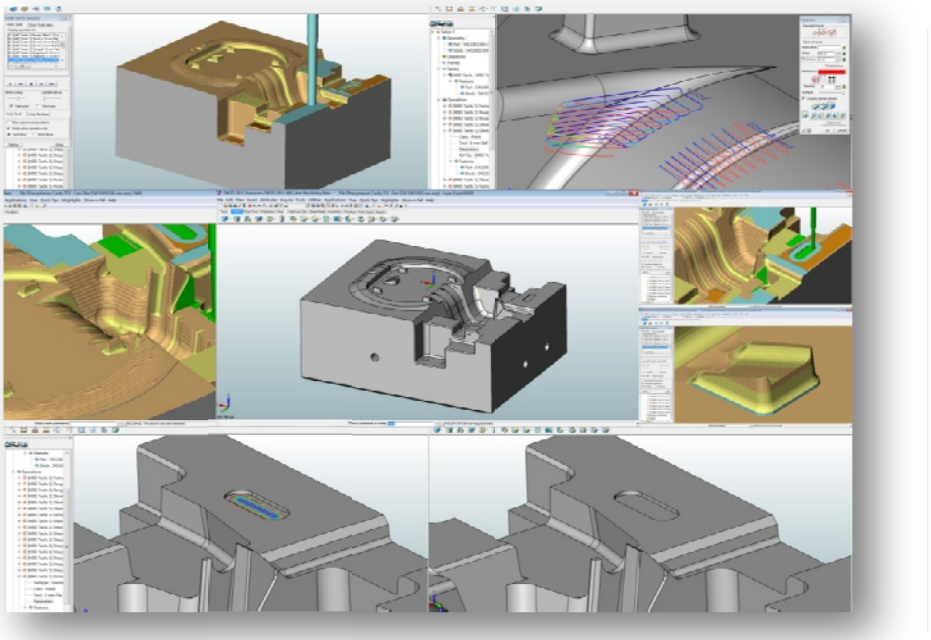
5.3 IMPROVED CREATE SLIDE OR INSERT

The function of Create Slide or Insert adds two new methods-Trim to Surface and Join to Shape. It provides more flexibility for you to create slides and inserts.

6. CAM

6.1 AUTOMATIC FEATURE RECOGNITION WITH INTELLIGENT WORKFLOW GENERATION

Automatic generation of correct and efficient 3D CNC machining plans requires the identification and association of features such as holes, slots and pockets, with a distinctive manufacturing process. ZW3D 2011 includes a new CAM technology that extends state of the art of feature recognition with a built-in intelligent knowledge base.



Using ZW3D's combination of tools, automation and shop-floor machining logic, ZW3D breaks down part topology into solid features and then analyzes the capabilities of library tools to produce an effective, efficient machining plan and generate a realistic machining work flow. This breakthrough technology allows for shorter programming and machining cycle times. We estimate that this new technology will cut programming time in half and may reduce actual machining cycle time by up to 30 percent. New and experienced users will save significant effort and can spend time in optimizing instead of creating new CNC programs.

6.2 TOOLSET OPTIMIZATION

TSO is a combination of technologies that ZW3D 2011 uses to generate the most optimal selection of tools for a particular milling sequence. It analyzes the available tools and makes intelligent choices based on Part, Stock, Material and Machine to quickly compute the most-optimum sequence of tools.

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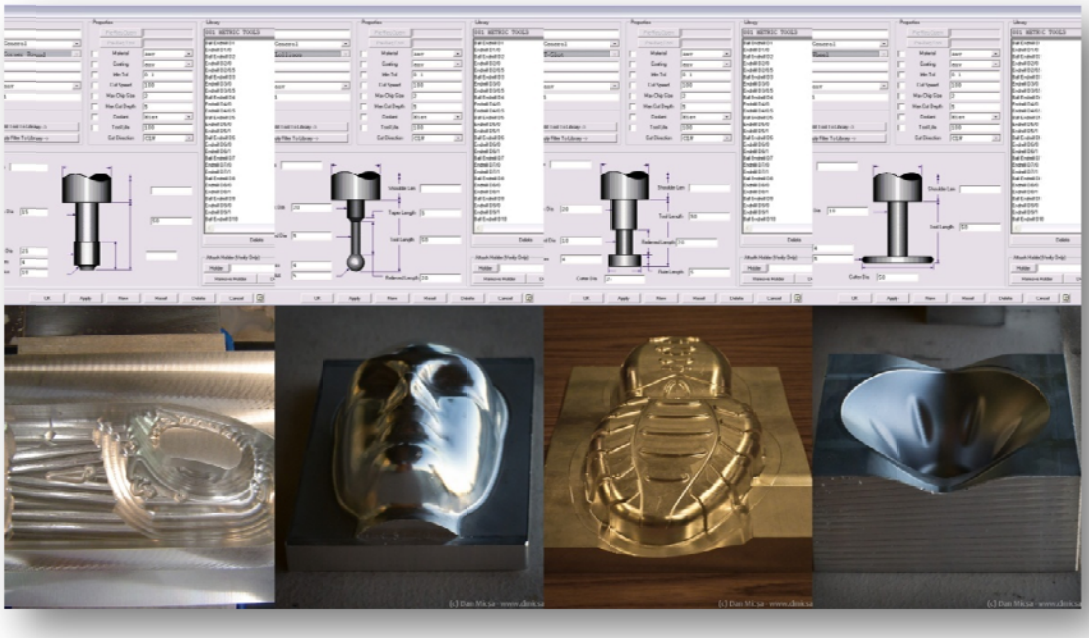
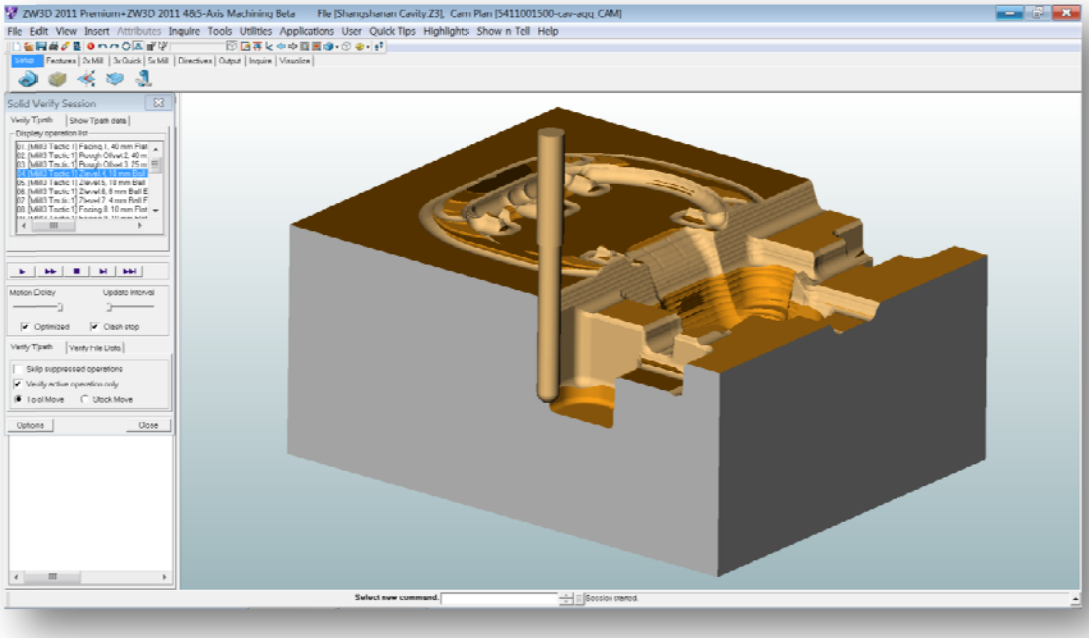


ZW3D 2011 includes updated calculation for rest rough areas (analyzing the material not removed by a previous tool). To speed calculation, ZW3D utilizes a constantly updated stock model of the remaining material. This advanced analysis avoids unnecessary and wasteful air-cuts. For deep parts, the software automatically calculates successive rest roughing operations with decreasing tool sizes to provide a constant wall thickness and rest-material for the successive finishing operations. ZW3D users gain substantial time savings because all tool path calculation include constant loading of the cutting tools and adaptive skinning. The uniform amount of material left behind for succeeding cutters minimizes tool wear and the likelihood of tool breakage.



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6.3 STRATEGY OPTIMIZATION

ZW3D 2011 offers built-in Strategy Optimization that automatically selects the best strategy according to part features. It analyses various features attributes such as: sharpness, depth, sculptural, flatness, steepness or noisiness and based on this information selects an appropriate machining strategy. ZW3D roughing and rest-rough machining operations offer efficient removal of large volumes of material, crucial when preparing a work piece for finishing. Another ZW3D advantage is the ability to utilize any combination of finish machining strategies for rest finishing. In this way, ZW3D automatically selects Z-level machining for steep areas and planar milling routine to finish shallow areas. Users have greater flexibility and control while simultaneously achieving better surface finish and improved tool life.