



## The truth about 3D: you still need 2D.



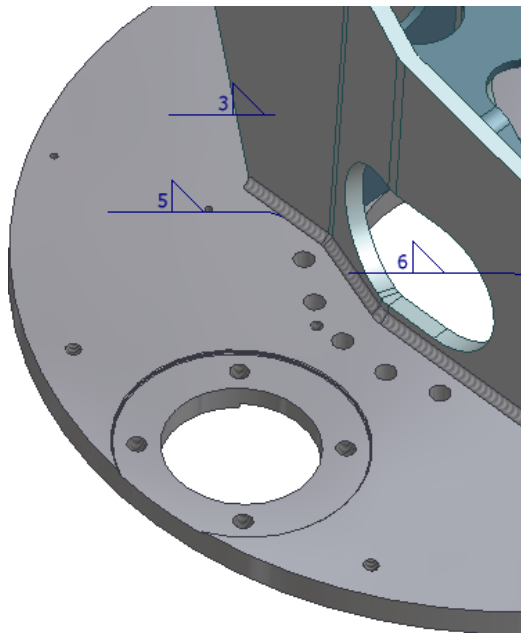
**Autodesk Inventor® Series** didn't become the world's #1 best-selling 3D mechanical design software by accident. It's the industry leader because it consistently delivers the right tool for the job, helping you design your entire product line with one integrated solution. Autodesk Inventor Series includes Autodesk Inventor® 3D design software; AutoCAD® Mechanical, built on the AutoCAD® platform for 2D mechanical drawing and detailing; and Autodesk® Vault integrated data management for securely managing work-in-process design data.

Because all this is combined in one package, Autodesk Inventor Series delivers a risk-free path from 2D to 3D. Now you can move to 3D at your own pace, protect your existing investments in 2D drawings and knowledge, and know that you're working with the most DWG-compatible platform on the market.

### Design Your Complete Product Line

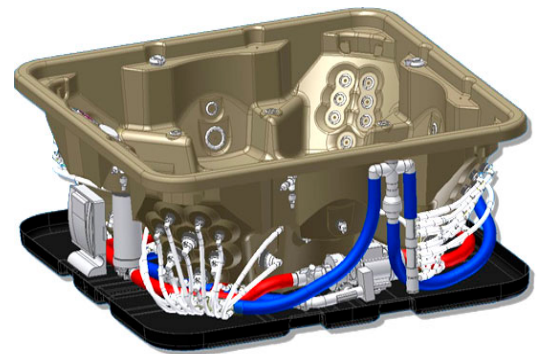
#### Weldments

With a built-in environment for designing weldments and machine castings, it's easy to model welds in 3D and improve quality by simulating weld preparation, welding, and postweld and cast machining operations.



#### Advanced Shape Description

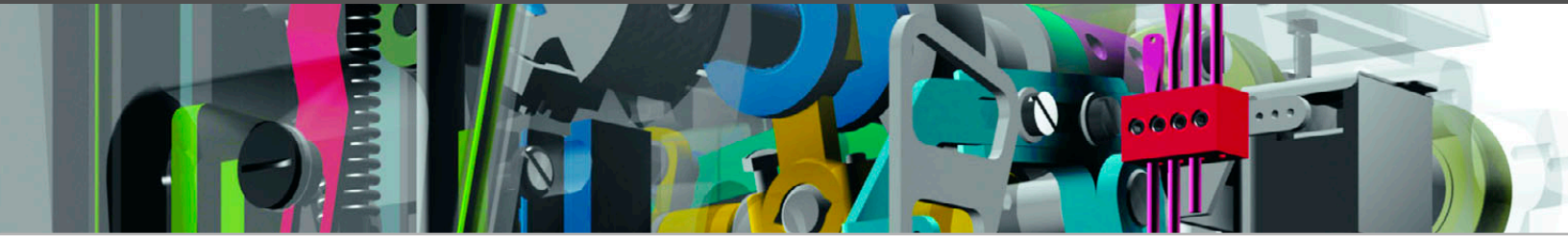
Improve innovation by using ShapeManager. This purpose-built 3D modeling kernel has been fine-tuned for the demands of 3D users in manufacturing, seamlessly combining advanced shapes and complex surfaces. Built on ShapeManager, Autodesk Inventor provides designers with a hybrid design approach, so solids and surfaces can be combined in one design for easy creation and editing.



#### Component and Feature Reuse

Save time with instant access to frequently used machinery content. Autodesk Inventor provides a library of more than 500,000 components that represent commonly used content, including nuts, bolts, and screws. It also provides powerful tools such as

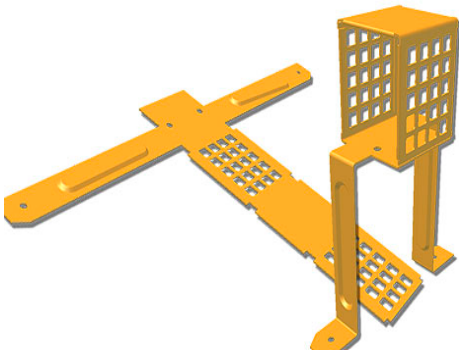
- **i-drop®** functionality: An easy way for you to incorporate parts that manufacturers post to the web by simply dragging them from your browser to the interface window



- **iParts:** Provides table-driven libraries of component groups (for example, a car wheel iPart that can be tabled between 4-, 5-, 6-, or 8-bolt hole patterns depending on the vehicle it is placed on)
- **iFeatures:** An interactive interface for populating smart features like connector ports, sheet metal louvers, and hydraulic ports that can be dragged right into the design

## Sheet Metal

Design sheet metal components using specialized tools that allow for quick changes and instant drawing updates. A powerful set of tools enables you to create parts face by face, flange by flange, or by extruding special contours to design from a flat pattern, from a form, or from both. The software automatically associates bend allowances based on material and thickness while providing customizable bend tables for correct flat pattern creation.



## Parametrics and Adaptivity

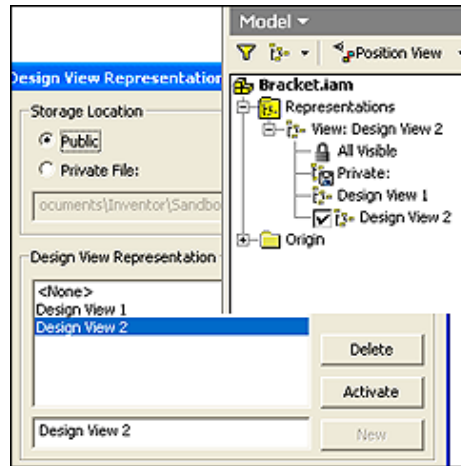
Cut down design steps by making changes that propagate instantly throughout your design, incorporating design engines for parametrics and adaptivity. This functionality helps you associate parts in a way that allows the change of one part to drive changes in associated parts.

## Dimension-Driven Design

Now it's easy to test multiple design concepts before defining the exact form and fit, a faster approach than using AutoCAD software to lay out designs. Quickly sketch shapes without worrying about details, applying dimensions to drive the geometry to the desired shape.

## Design Views

Boost productivity when working with large, complex assemblies by storing and sharing frequently used views and representations. Quickly isolate specific parts or subassemblies to see what you want to see, when you want to see it.



## Sketching

Create conceptual sketches of your designs using a free-form sketching environment to create, connect, and reuse multiple sketches to build 2D layouts of design concepts.

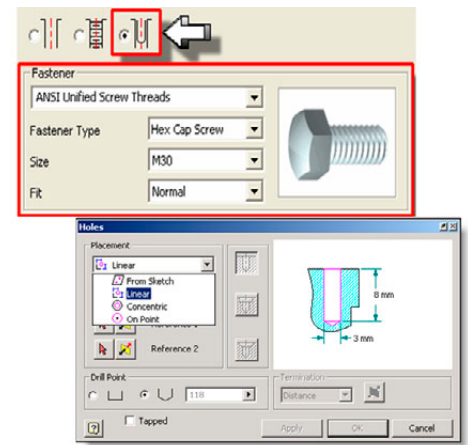
## Capacity and Performance

**Enhanced** With the capacity to design large, complex machines including tens of thousands of components, you don't need expensive hardware. The segmented database architecture will continue to increase in capacity to meet your needs and is now faster than ever.

The creation and editing of large assembly drawings will be greatly improved with an enhanced drawing manager. In addition, large assembly drawings will benefit from new load on demand functionality and Z-plane clipping controls for drawing view optimization.

## Streamlined Placement of Holes

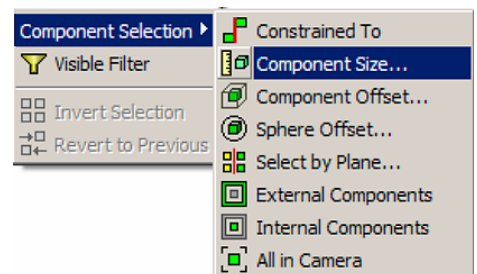
**Enhanced** Improve productivity by automatically creating holes and hole notes that update automatically with changes. Streamline the placement of holes, independent of the sketch, using a linear (place by two edges) or concentric method—and define hole parameters based on standard fasteners.

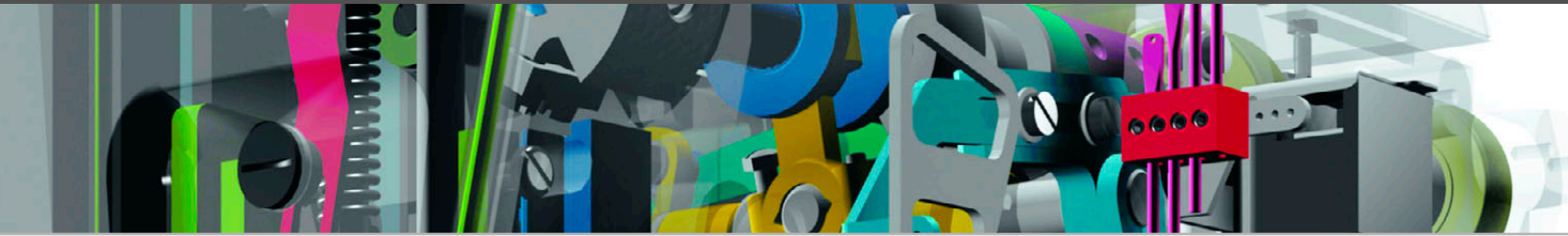


## Component Selection

**Enhanced** Quickly focus on just the assembly components you need for the task at hand. With component selection and isolation, you choose a specific assembly component and isolate your view to focus only on that component and the items within your selection criteria. Control component visibility to enhance assembly performance and speed up design tasks. Advanced component selection tools now include the following:

- Select all Internal or External components.
- Select all components in Camera View.
- Select all components in front of or behind a plane.
- Selection filter for Work Features.



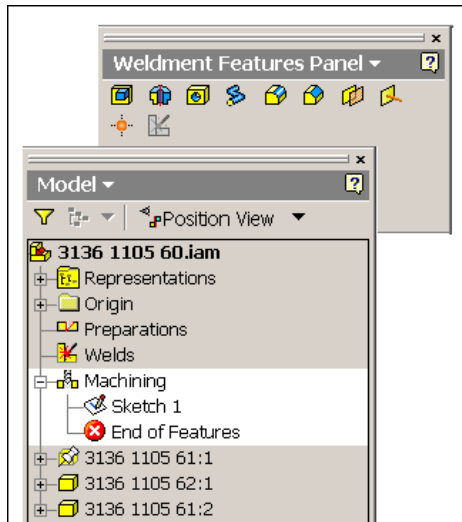


## Design Views

**Enhanced** Increase productivity with large, complex assemblies by storing and sharing frequently used views and representations. Automate the incorporation of design views directly into assembly files, and take advantage of associative design views that are now supported in presentation files.

## Assembly Features

**Enhanced** Help improve quality by simulating weld preparation, postweld operations, and the machining of castings. Assembly features now support revolve and sweep (to remove material), fillet and round, and advanced hole termination.

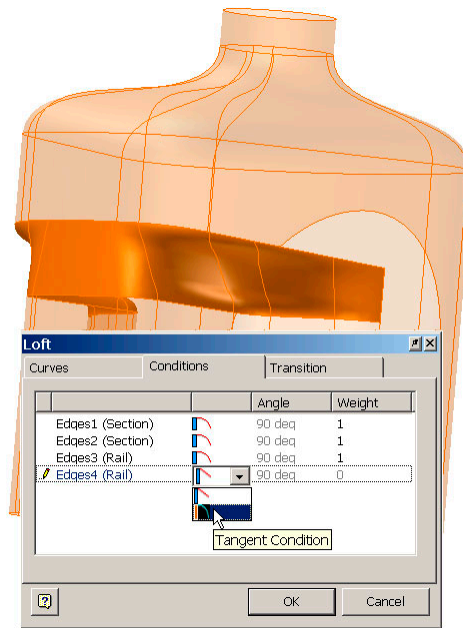


## Projected Sketch Geometry

**Enhanced** Now you can create conceptual sketches of your designs. Toggle projected sketch geometry between Normal, Construction, Centerline, and Reference settings.

## Loft

**Enhanced** Create more innovative designs by combining advanced shapes and complex surfaces. Take advantage of full-fidelity preview of loft, and apply tangency conditions to loft rails.

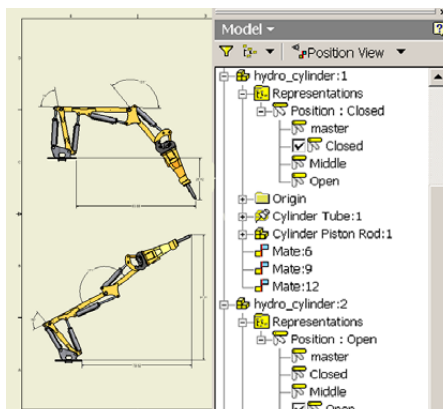


## Pattern and Mirror

**Enhanced** Reduce the time it takes to duplicate the features and parts used in top-down design. You can pattern and mirror work features (plane, axis, and point) as well as solid base bodies.

## Positional Representations

**New** Help improve quality by validating the positional states of an assembly. Quickly create assemblies with multiple instances of a sub-assembly—each in a different position. For



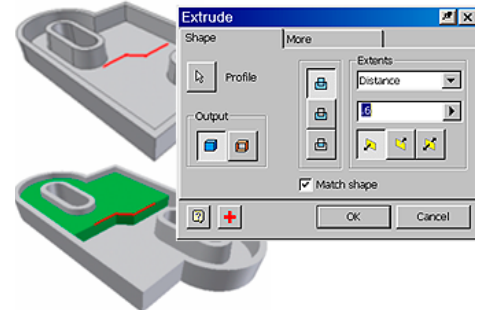
example, you may need two representations of a hydraulic cylinder in a subassembly—one in the open and one in the closed position.

## Styles

**New** Work faster and ensure that the work conforms to company standards with the ability to control and instantly change the formatting of an entire document. Styles make it easy to format characteristics such as font size, color, standards, and linetype. When you apply a style, all formatting instructions in that style are applied at once. And you can configure a set of common company styles for everyone on a project to use.

## Shape Propagation

**New** Quickly create more innovative designs from existing shapes, and create new geometry by propagating existing contours when performing extrude and revolve functions.



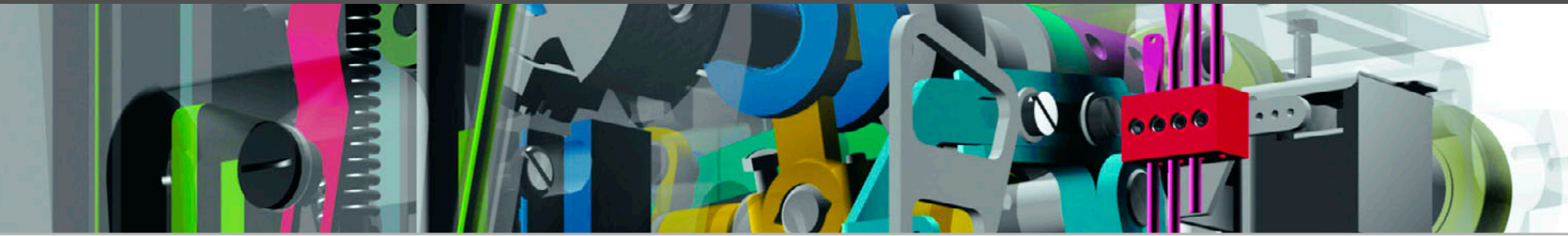
## Planar Boundary Patch

**New** Combine advanced shapes and complex surfaces by automatically creating planar surfaces through edges of existing planar geometry, enhancing your designs.

## Flexible Assemblies

**New** Minimize costly errors and improve overall product function by dynamically driving multiple instances of the same assembly through independent states.





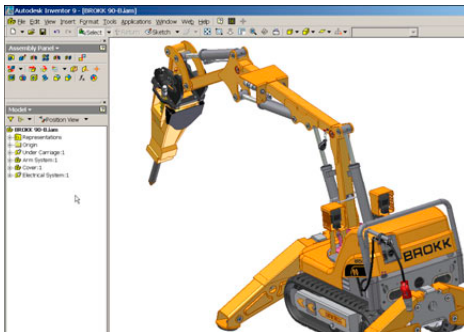
## Create Quality Products with Fewer Revisions

### Virtual Prototyping

Facilitate building more innovative, higher-quality products through rapid virtual design iterations. Autodesk Inventor offers an intuitive visual design environment for working with parts and assemblies, which inspires interactive design simulation to resolve product function before committing to a prototype or finished part. This way, you can simulate and test designs interactively earlier in the design process.

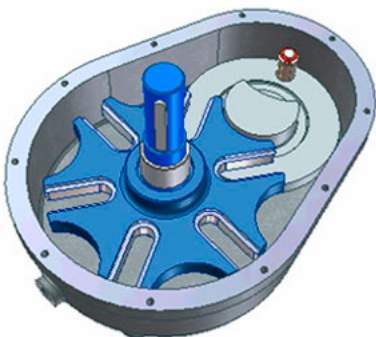
### 3D Visualization

Take advantage of constant feedback on component relationships in all design modes to improve every aspect of your design before it's built. To assist in making the right design choices, view sketches, parts, and subassemblies in the context of the design and assign realistic materials, textures, and lighting to your models.



### Contact Detection Solver

Drag a component to collide with another component to validate the reaction between the two—a simple way to reduce errors early in the process and help improve product function. And it's easy to drive assembly motion, providing the ability to test and retest design function.



### Interference Analysis

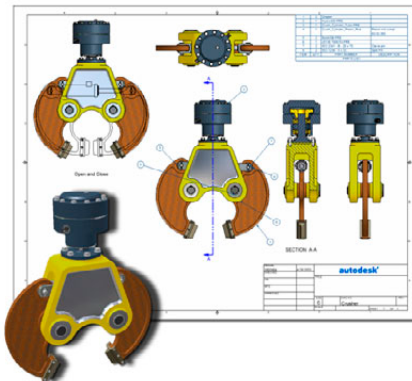
Cut costly errors and improve design manufacturability with automated tools that test for part interference, allowing the parts to be measured for proper fit. You can also vary the component tolerance to validate manufacturing flexibility.

### Physical Properties

Improve product design by utilizing real-world properties to build a virtual prototype of your design. Parts and assemblies created in Autodesk Inventor carry physical property information such as center of gravity, material type, density, color, and texture—to help you make more informed design decisions.

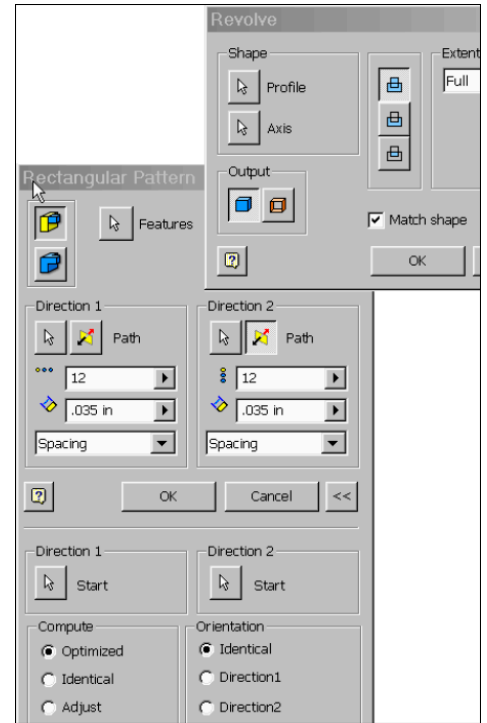
### Associativity

Take advantage of automatic propagation of design changes to reduce errors and speed time to market. Associate parts and assemblies with design relationships, so that a change made to a part will be reflected in the assembly design and all associated drawing files. In addition, a change to the assembly will be reflected in the parts and drawing files. This means that if you edit associated components such as parts and subassemblies, those changes will ripple throughout all parts, assemblies, presentations, drawings, and related partner add-ins (such as CNC tool paths or finite element analysis).



### Customizable Hot Keys

Save time with fast access to the commands you use most by defining your own keyboard shortcuts.



### Pattern and Mirror

Quickly pattern and mirror 2D and 3D shapes in all design modes to create associative or nonassociative patterned copies.

### Interoperability with AutoCAD Mechanical

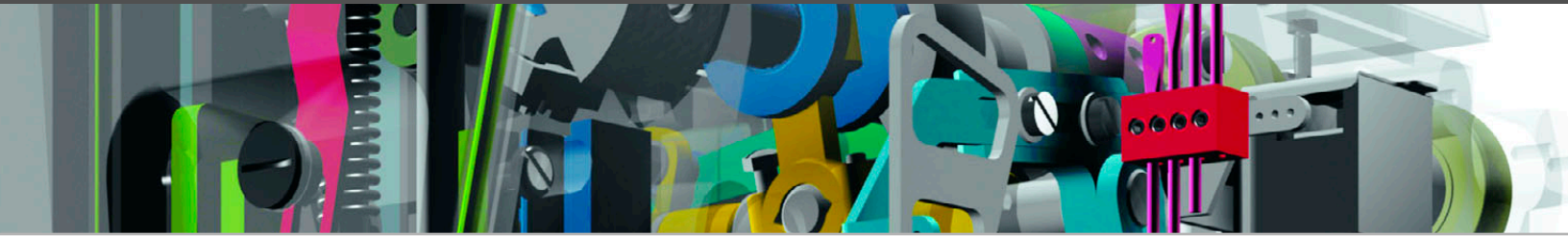
Speed up the design creation process and reduce errors through associative 2D and 3D collaboration. AutoCAD Mechanical can create drawings of Autodesk Inventor part models. When the design changes in Autodesk Inventor, the AutoCAD Mechanical drawing automatically updates.

### Open API

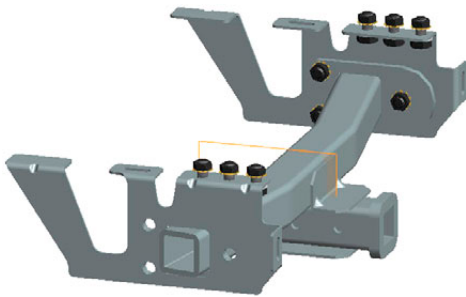
Customize Autodesk Inventor for your specific environment. A well-documented application programming interface (API) will help you automate your specialized workflows.

### Assembly Mirror

**Enhanced** Cut the number of steps required to duplicate and mirror complex assemblies. When designing assemblies, it's typical to have subassemblies that are identical but mirrored to reflect a right-side or left-side condition. Using the Autodesk Inventor assembly mirror func-

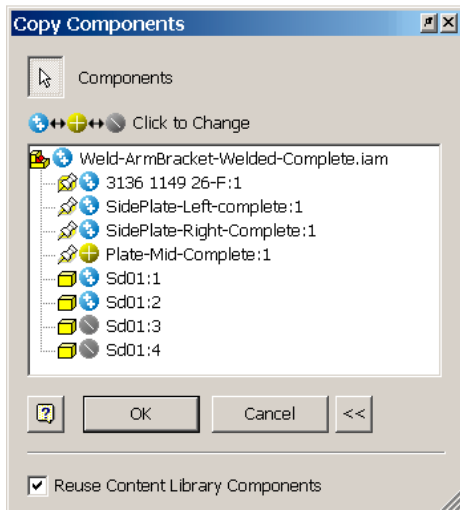


tionality, you can define left-to-rights or front-to-backs to create symmetrical parts or sub-assemblies. The assembly mirror functionality supports assembly features, assembly patterns, welding preparation, automatic part naming, and machining with the ability to reuse standard content.



### Component Copy

**New** Dramatically reduce the effort required to reuse designs with a flexible time-saving utility for copying assemblies, subassemblies, and parts from previous designs. The utility includes automatic naming functionality to create same-as and except versions of the design while maintaining the integrity of assembly constraints, iMates, Workfeatures, welds, and assembly features.



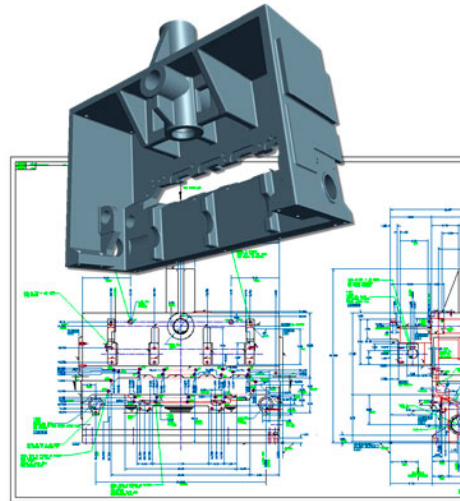
### The Fastest Way to Production-Ready Drawings

#### Automatic Drawing Updates

To help eliminate errors and the need for manual checking, Autodesk Inventor associates drawing views to the original components. So any change made to a part of an assembly is automatically reflected in the drawing.

#### Automatic Drawing Views

Automatically create front, side, iso, detail, section, and auxiliary views—with automatic retrieval of model dimensions—to reduce the time it takes to create drawings using traditional 2D methods. Use a robust palette of dimension, annotation, and 2D symbols to quickly complete your drawing set.



### AutoCAD Migration Utility

Improve your workflow and make the most of your AutoCAD data. Quickly import AutoCAD drawings and map layers into the Autodesk Inventor environment as a completed assembly or as a part for your 3D layout.

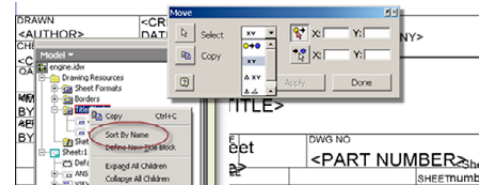
### Reuse AutoCAD Drawing Templates

Speed the transition from 2D to 3D by using your AutoCAD design templates, including layers, title blocks, and standards information.

#### Title Blocks

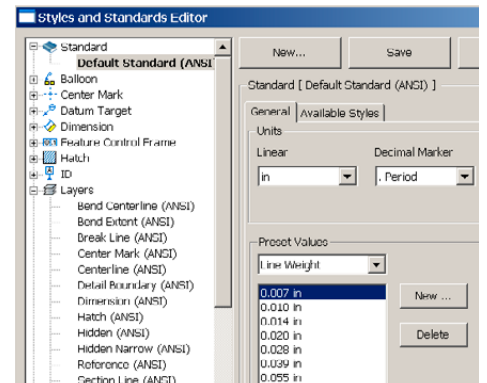
**Enhanced** Create company-standard drawing templates more quickly. Improved editing allows you to

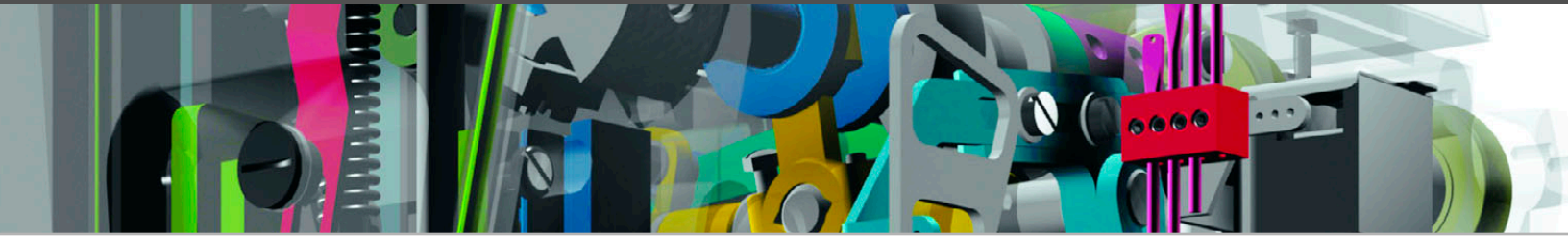
- Precisely input dimensional values to define title blocks
- Modify title block information using “stretch” functionality
- Edit title blocks in the context of your drawing



#### Standards

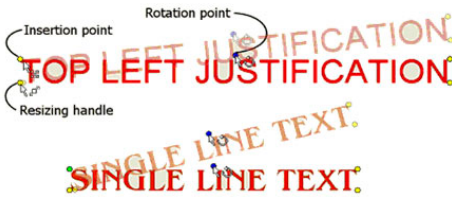
**Enhanced** Quickly create production-ready drawings and ensure consistency with your company standards. Modify standard settings as needed, mix multiple standards within a drawing, and globally update drawings based on changes to the standards.





## Text

**Enhanced** Take advantage of support for AutoCAD-like text tools. Freely rotate text at any angle, and justify text to meet annotation needs.



## Dimensioning

**Enhanced** Speed drawing creation with the ability to automatically center dimension text and edit extension line origins.

## Section Views

**Enhanced** Experience greater flexibility and control of section views with improved control of the depth of a slice and new component selection tools that allow you to predefine components on a per view basis when creating section views.

## Associative Parts List

**Enhanced** Generate and update an accurate parts list in a fraction of the time required by traditional 2D methods. Part and subassembly quantities are always kept up to date, and are instantly organized and populated into a drawing parts list. Changes to the assembly (removing a washer, for example) are associative, so the parts list is updated automatically. The parts list now gives you the opportunity to override automatically generated materials and quantities for easy creation of customized lists.

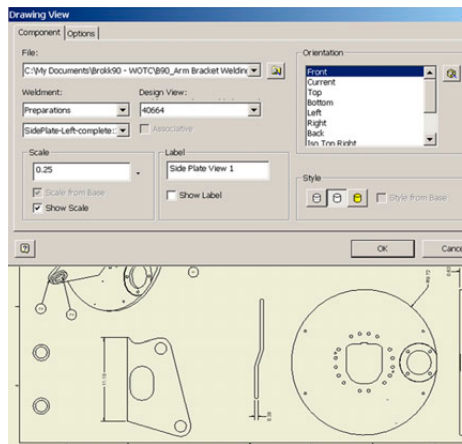
## Layers

**New** This is the first Autodesk Inventor version to include layers, a powerful feature from AutoCAD software. Speed the process of formatting Autodesk Inventor drawings by creating groups based on layers with colors, linetypes, and visibility. Additionally, this capability makes it easy to map layers between the AutoCAD and Autodesk Inventor applications for easy importing and exporting of data.

Layer Name	On	Color	Line Type	Line Weight
Bend Centerline (ANSI)	✓	Blue	Chain	0.010 in
Bend Extent (ANSI)	✓	Red	Continuous	0.020 in
Break Line (ANSI)	✓	Black	Continuous	0.020 in
Center Mark (ANSI)	✓	Cyan	Continuous	0.010 in
Center-line (ANSI)	✓	Cyan	Continuous	0.010 in
Detail boundary (ANSI)	✓	Black	Double Dash Chain	0.020 in
Dimension (ANSI)	✓	Black	Continuous	0.010 in
Hatch (ANSI)	✓	Black	Continuous	0.007 in
Hidden (ANSI)	✓	Black	Dashed	0.014 in
Hidden Narrow (ANSI)	✓	Black	Dashed	0.010 in
Referenced (ANSI)	✓	Magenta	Double Dash Chain	0.038 in
Section Line (ANSI)	✓	Black	Double Dash Chain	0.028 in
Sketch Geometry (ANSI)	✓	Blue	Continuous	0.010 in
Symbol (ANSI)	✓	Black	Continuous	0.010 in
Tweak Trail (ANSI)	✓	Green	Continuous	0.010 in
Visible (ANSI)	✓	Black	Continuous	0.030 in
Visible Narrow (ANSI)	✓	Black	Continuous	0.014 in
Work Axis (ANSI)	✓	Orange	Chain	0.010 in
Work Plane (ANSI)	✓	Orange	Double Dash Chain	0.010 in
Work Point (ANSI)	✓	Orange	Continuous	0.010 in

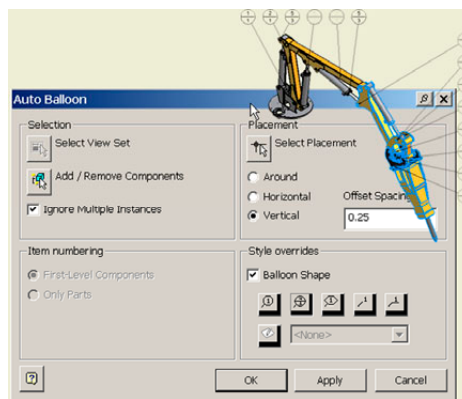
## Weldment Preparation Drawing Views

**New** Deliver the completed drawing sooner by automatically creating drawing views of component weld preparations. Autodesk Inventor makes the process productive.



## Auto-Balloon Enhancements

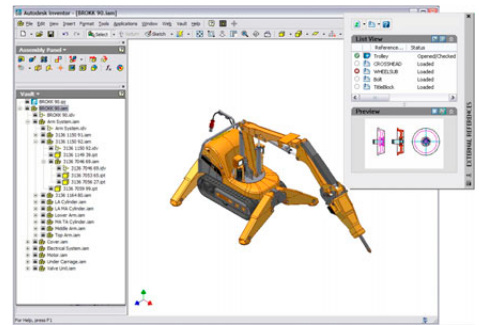
**New** When documenting assemblies, enjoy superior control over automated balloon placement on assembly drawings.



## Communicate and Manage Design Data

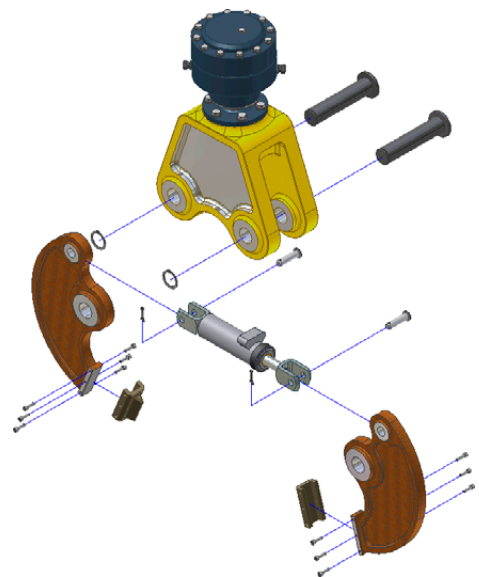
### Autodesk Vault

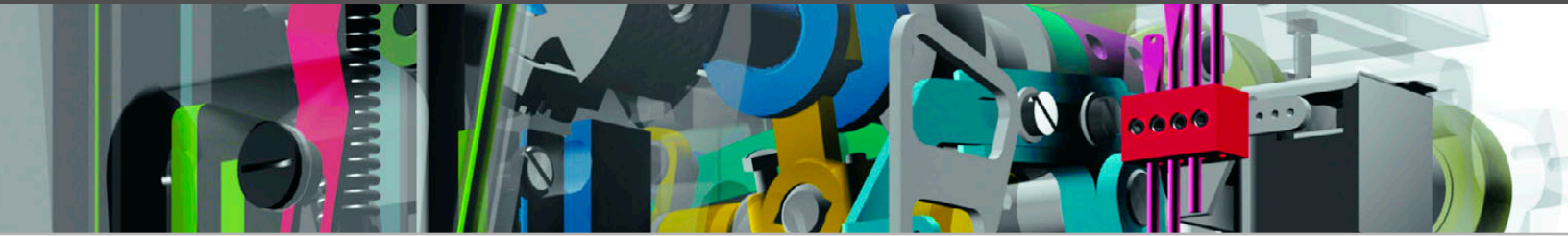
Securely manage work-in-process design changes with Autodesk Vault, integrated into Autodesk Inventor software. Quick to learn and deploy, Autodesk Vault coordinates the sharing of files among workgroups, controls versions, and is tightly integrated with all Autodesk® manufacturing design products.



## Technical Illustrations

Quickly create technical illustrations, process sheets, training materials, part manuals, assembly instruction sheets, and videos to train assembly teams on the manufacturing floor.





## Import/Export Formats

**Enhanced** Autodesk Inventor Series supports industry standard data transfer for importing and exporting design and drawing information, enhancing collaboration, and sharing with AutoCAD users, suppliers, and customers.

You can import DWG, DXF™, ProE®, SAT, IGES, and STEP files. Export part assembly files including SAT, IGES, STEP, STL, and Autodesk Streamline® online service. Export drawing files including DWG (with full layer mapping), DWF™, and DXF files.

New support for AutoCAD 2005 features includes importing and exporting file properties, OLE scaling on import/export, and mapping fields to MTEXT.

DWG compatibility has been expanded to include support for layers, text, hole, thread notes, and bitmaps, making it even easier to collaborate and share data with AutoCAD users, suppliers, and customers.

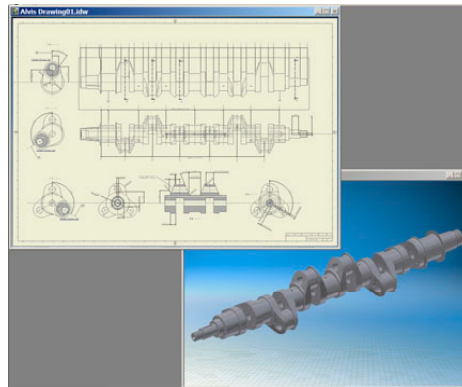
## IGES Wireframe Import

**Enhanced** The ability to import 2D and 3D wireframes improves collaboration with suppliers and customers by reusing design data created in other design systems. For example, you can

- Create laser and optic machinery from data created in optic design solutions
- Import wireframe data from 3D scanning devices for reverse engineering
- Validate manufactured parts against the original 3D design from Coordinated Measurement Machines (CMM)

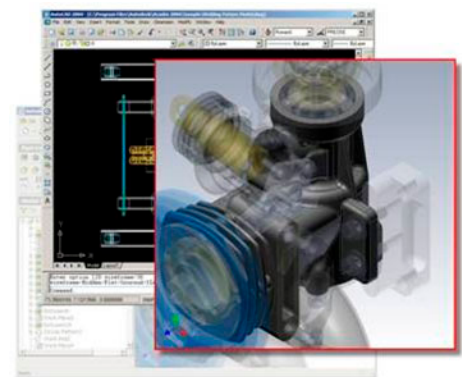
## Autodesk Inventor View

**New** Share designs with your extended manufacturing team with full fidelity viewing and printing of Autodesk Inventor files even for those without the application. Nonusers can open and print part files (IPT), assembly files (IAM), and drawing files (IDW).



## 3D DWF Publishing

**New** Share design data quickly, easily, and efficiently with DWF (Design Web Format™) files.



## Learn Easily, Deploy Quickly

### Ease of Use

Autodesk Inventor offers the industry's shortest path to full 3D productivity. With a design environment featuring fewer, smarter commands, the software works the way you want to work. Highly visual feedback and gesture-based interactivity responds intelligently to cursor movement to help you work more efficiently.

## Advanced Help System

Speed the transition to 3D with contextual help. The award-winning Design Support System (DSS) provides browser-based support to quickly bring you up to speed and offers an electronic infrastructure for easy learning.

## Design Doctor

Resolve errors in your 3D model with highly refined diagnostic tools that recognize potential design issues and recommend corrections.



## Skill Builders

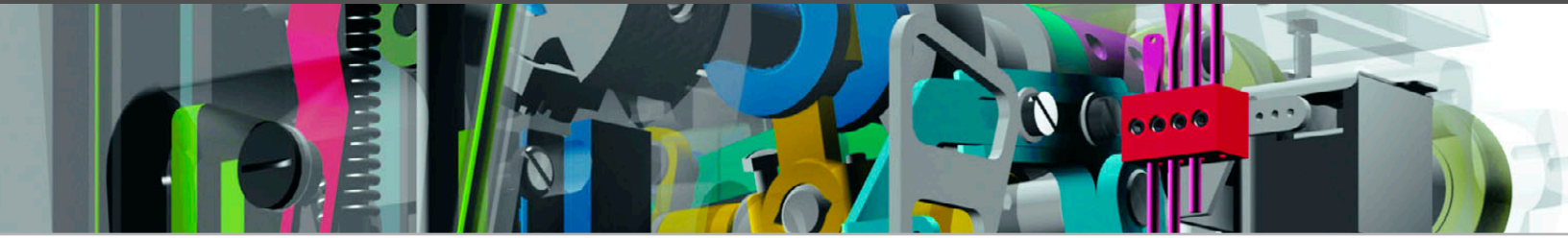
Speed learning through flexible access to up-to-date tutorials and best practices. Extended learning modules provide enriched online help, tutorials, and "show me" animations—with periodic updates available through the web.

## Project Files

**Enhanced** Help save time and secure project integrity when relocating design data. Project files are automatically organized to track all design-related data. You can even find files automatically after changing their location on disk.

## Network Installation

**New** Speed up network deployment of Autodesk Inventor, which can now be installed via "network push" and which includes support for standard Microsoft® technologies, including SMS and GPO.



## Autodesk Gives You More

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To learn more about Autodesk Inventor Series and see a complete list of system requirements, visit [www.autodesk.com/inventorseries](http://www.autodesk.com/inventorseries).

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