

## SolidWorks Product Matrix

	SolidWorks Parts-Only	SolidWorks Parts & Assemblies	SolidWorks Standard	SolidWorks Professional	SolidWorks Premium
<b>Mechanical CAD Capabilities</b>					
<b>SWIFT</b>					
SolidWorks Intelligent Feature Technology (SWIFT) lets you spend time creating products that work well, instead of trying to make your software work for you. As a result, users of any experience level can be more effective and innovative.	✓	✓	✓	✓	✓
SWIFT automates mates in assemblies.		✓	✓	✓	✓
SWIFT automates time-consuming detail work and the application of dimensions.			✓	✓	✓
<b>Getting Started</b>					
Get up to speed fast. SolidWorks CommandManager logically groups similar functions for easy access. And integrated tutorials provide instructive workflow demonstrations along with visual cues.	✓	✓	✓	✓	✓
<b>User Interface</b>					
With the Heads-up User Interface, you get a complete, customizable set of visual display and mouse-driven control capabilities that reduce design steps, minimize the need for dialog boxes, and lessen visual clutter.	✓	✓	✓	✓	✓
<b>Working with DWG</b>					
There's no need to start from scratch when you want to transition a 2D drawing to a 3D model. SolidWorks includes data translation tools along with help documentation for AutoCAD users, so you can smoothly convert DWG files into 3D models. Alternatively, use DWGeditor®—included with SolidWorks software—to edit, manipulate and maintain existing AutoCAD® DWG files in their native format.	✓	✓	✓	✓	✓
<b>Part Modeling</b>					
Speed product development from concept to production with powerful and easy-to-use 3D part modeling tools. Sketch in 2D and then extrude, revolve, blend or sweep the section along a path to create any 3D geometry. Edit by merely clicking and dragging geometry, or by clicking and changing dimensions. Time saving features such as holes, bosses, fillets, chamfers, slots, keyways, o-ring grooves, louvers and ribs are also provided. Drag/drop, pattern, copy and mirror features to eliminate repetitive modeling tasks.	✓	✓	✓	✓	✓
Design parts as they will be positioned in the assembly to manage relationships to other parts.		✓	✓	✓	✓
<b>RealView Graphics</b>					
Visualize and communicate your designs more clearly than ever. Without rendering, you can quickly create nearly lifelike, fully dynamic representations of your parts, assemblies, and completed products.	✓	✓	✓	✓	✓
<b>Advanced Surfacing</b>					
Improve the aesthetics, ergonomics, and usability of your product designs. Using the Freeform feature, creating new geometry or importing and manipulating new surfaces is easy and intuitive.	✓	✓	✓	✓	✓
<b>Sheetmetal Design Tools</b>					
Create sheet metal parts from scratch using folds, bends, flanges, ribs, tabs, mitres, lofted bends, sketched bends, hems and more. Alternatively, create a solid shape as starting point then use advanced capabilities such as 'convert solid-to-sheetmetal' functionality to develop a manufacturable sheet metal part.	✓	✓	✓	✓	✓
<b>Weldment Design</b>					
Sketch a layout for your frame and select a weldment profile, then SolidWorks will automatically generate a weldment design in 3D. Modify, validate, reinforce your design.	✓	✓	✓	✓	✓
Enhance your design with standard parts that you can drag & drop from the Design Library and/or 3D ContentCentral.		✓	✓	✓	✓
Generate precise manufacturing drawings with cut lengths for all segments.			✓	✓	✓
<b>Mold Design Tools</b>					
In SolidWorks, you can import any of the major CAD formats including IGES, STEP, Parasolid and ACIS to begin your mold designs. Complete your mold design using specialized mold design features such as parting lines and surfaces, and core/cavity splitting as well as specialized plastic part design features such as shrinkage, draft, ribs, fastening features and lip and groove features. Automatically check for draft angle, undercuts and thickness to ensure that parts are really ready for manufacturing.			✓	✓	✓

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<b>Assembly Modeling</b>					
SolidWorks gives you the tools to "get it right" on screen when you create assemblies—saving the time and cost of physical prototypes and remanufacturing.		✓	✓	✓	✓
Mate components by picking individual surfaces, edges, curves, and vertices. Use MateXpert to fix conflicts such as over-constraining a component.		✓	✓	✓	✓
Create mechanical relationships between components. Conduct interference, collision, and hole alignment checks. Link motion of pulleys and sprockets.		✓	✓	✓	✓
Automatically assemble fasteners and accompanying hardware.		✓	✓	✓	✓
<b>Assembly Motion</b>					
Simply by clicking and dragging components, you can check an assembly for proper motion and collisions. In addition, you can simulate physical motion involving assembly mates, contact, springs, and gravity, as well as create, edit and save video animations.		✓	✓	✓	✓
<b>Large Assembly Mgt</b>					
Use "Lightweight" mode to reduce time spent opening and working on large assemblies. Speedpak technology enables simplified versions of assemblies to be created that speeds assembly operations and drawing creation. Use Quick View to select and open just the components you need to work on. Analyze and improve your assembly's performance using the AssemblyXpert.		✓	✓	✓	✓
<b>2D Drawing Creation</b>					
Develop production-ready engineering drawings that automatically reference the 3D part so that drawing views and bills of materials update each time that you modify the part or assembly design. In addition, you can use DWGeditor to maintain and update all your existing DWG drawing files.			✓	✓	✓
<b>Data Translation</b>					
Easily import and use existing data, as well as data from external sources. SolidWorks includes translators that support DWG, DXF™, Pro/ENGINEER®, IPT (Autodesk Inventor®), Mechanical Desktop®, Unigraphics®, PAR (Solid Edge™), CADKEY®, IGES, STEP, Parasolid, SAT (ACIS), VDA-FS, VRML, STL, TIFF, JPG, Adobe® Illustrator®, Rhino®, IDF, and HSF (Hoops) formats.	✓	✓	✓	✓	✓
Support for external sources containing assemblies		✓	✓	✓	✓
<b>Design Reuse</b>					
Leverage your successful designs to create compelling proposals for new ones. Quickly search for pre-existing components in your own custom design library, then simply drag and drop them into your new designs.			✓	✓	✓
<b>Bill of Materials</b>					
Significant time savings result when you use SolidWorks to automatically generate a complete Bill of Materials (BOM) from your design. Your BOM is associative: When you change your design, the BOM updates automatically, and vice versa. Plus, you can export the BOM data to Excel, ERP, and other applications.			✓	✓	✓
<b>Part Validation</b>					
SolidWorks Simulation tools help both new users and experts to ensure your design is durable, safe, and manufacturable. In addition, you can use SolidWorks FloXpress to optimize your designs for water and air flow effects.	✓	✓	✓	✓	✓
<b>Design Automation of Repetitive Tasks</b>					
Save time with SolidWorks Smart Component technology to automate the selection and insertion of standard components and DriveWorksXpress to automate repetitive design tasks and provide configurability of your design, allowing the quick creation of several variants from a single design."			✓	✓	✓
<b>Import/Export Capabilities</b>					
With SolidWorks, you'll have numerous capabilities for accurately communicating design ideas and data to collaborators, upstream and downstream partners, and customers. Formats include PDF, TIF, JPEG, DWG, DXF, IGES, STEP, STL, AVI, Parasolid, Pro/ENGINEER, eDrawings as well as many others.			✓	✓	✓
<b>Design Collaboration</b>					
Collaborate more effectively by creating eDrawings files that can be reviewed and marked-up. Let an unlimited number of recipients mark-up and provide feedback on product designs.				✓	✓

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<b>Feature Recognition</b>					
When people you collaborate with use other CAD systems, FeatureWorks helps you share imported data by allowing conversion directly to a SolidWorks 3D model. You can elect to rebuild the entire imported model with SolidWorks features, or select individual features to convert.				✓	✓
<b>Standard Hardware Libraries</b>					
With SolidWorks Toolbox, you have instant access to thousands of pre-built SolidWorks models of standard hardware such as bolts and screws, bearings, o-rings, gears, etc. Just drag and drop them into your design, or use the SmartFasteners capability to automatically assemble and size fasteners.				✓	✓
<b>Photorealistic Rendering</b>					
Use PhotoWorks and PhotoView 360 to leverage your SolidWorks 3D models for presentations, proposals, and virtual and material studies—before creating any parts. Save time and eliminate the high costs of prototyping and photography.				✓	✓
<b>Design Standards Checking</b>					
Raise your quality level with SolidWorks Design Checker. With thorough, automated checks and autocorrect capability, you can ensure full compliance with your company standards before you release your designs for manufacture.				✓	✓
<b>Advanced Productivity Tools</b>					
SolidWorks Utilities enables the designer to do many things including compare parts or drawings to find differences between two similar designs or similar drawings. FeatureWorks streamlines use of data from different CAD systems to work together.				✓	✓
<b>Leverage Scanned Data</b>					
Import digital scans of handcrafted models into SolidWorks using ScanTo3D. You can also import design concepts created in Rhino® software or sketches developed in Adobe® Illustrator®.					✓
<b>Routed Systems</b>					
Automate and accelerate the process of routing tubes, pipes, electrical cables, cable harnesses, and electrical conduits with SolidWorks Routing.					✓
<b>ECAD to MCAD Integration</b>					
Use CircuitWorks, a bi-directional ECAD translator, to ensure the fit and function of printed circuit boards (PCBs) into electrical and mechanical products.					✓
<b>Data Management Capabilities</b>					
<b>Secure Access</b>					
Protect your product design data with secure, managed access to authorized individuals, over a network or via the web. In addition to internal users, you can also permit access to partners, customers and your supply chain.				✓	✓
<b>Revision Control</b>					
Help your design team avoid overwriting files and help purchasing and manufacturing order and produce the correct parts, every time.				✓	✓
<b>Find Files</b>					
Quickly and easily find SolidWorks files by searching on metadata (Custom Properties).				✓	✓
<b>Design Validation Capabilities</b>					
<b>Tolerance Stackup Validation</b>					
ToAnalyst allows tolerance stack-up analysis directly inside SolidWorks, and analyzes designs based on the order and manner in which parts are assembled, as well as DimXpert-applied dimensions and tolerances. Determine if your design meets fit and function requirements without tedious and error-prone hand calculations.					✓
<b>Assembly Simulation</b>					
Study the interactions of assembly components onscreen, before incurring the costs of physical prototypes. Accurately simulate static or dynamic loads to evaluate your design's performance under stress, strain, and displacement.					✓
<b>Fully-Integrated Mechanism Simulation</b>					
Apply a wide variety of physics-based models to simulate real-world operating conditions for your design. Check for colliding parts. Output numerical and graphic data of the results, as well as animations of your tests.					✓
<b>Simulate Welded Structures</b>					
Ensure your welded structures perform at peak operating conditions. Apply pressure, forces, and bearing loads. Then use powerful visualization tools like sections plots, iso-clipping, and animation to review the response of either the full assembly or only certain parts.					✓