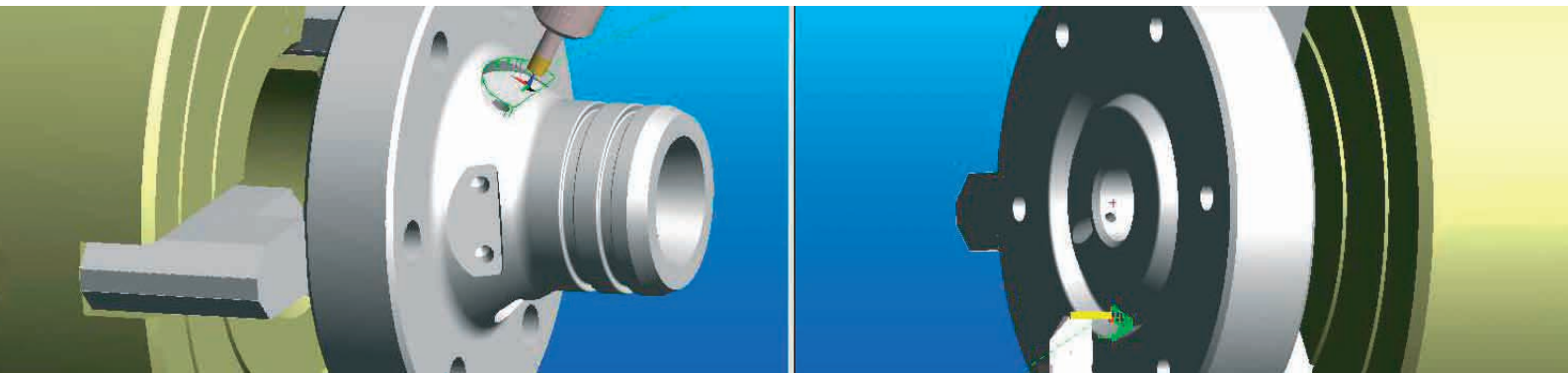




EdgeCAM for Autodesk Inventor

Automating NC Programming



Pathtrace is Autodesk's Preferred CAM Partner. EdgeCAM® is the perfect partner for your Autodesk Inventor® system.

EdgeCAM Solid Machinist® allows the user to directly and seamlessly machine Autodesk Inventor parts.

GET YOUR AUTODESK INVENTOR PARTS INTO PRODUCTION QUICKLY AND EASILY

EdgeCAM Solid Machinist is a powerful and totally integrated CAM system for generating machining strategies and NC code for solid models, specifically for Autodesk Inventor parts. With EdgeCAM Solid Machinist, the Autodesk Inventor user is able to import files directly into EdgeCAM, where a wide range of innovative features offer a quick and reliable route to manufacture.

Guaranteed Data Integrity

With EdgeCAM Solid Machinist, the solid model created in Autodesk Inventor is not filtered through a translator resulting in more of the intelligence contained within the model being used by EdgeCAM to generate efficient machining strategies.

Feature Finding

EdgeCAM Solid Machinist uses automatic feature recognition to interrogate the solid model to find machinable features. At a single click, pocket, boss and hole features can be found and information relating to these features extracted. For hole features, Autodesk Inventor threading data can also be imported. This information is used to select the correct tools to machine the features using EdgeCAM's extensive range of cutting strategies.

Toolpath to Model Associativity

The associative link between EdgeCAM Solid Machinist and Autodesk Inventor significantly reduces the burden of reworking NC programs.

Manufacturing companies are facing increased pressure to reduce production lead times. A major way of reducing lead times is through concurrent design and manufacturing activities. However, the inevitable changes that take place during the design process put an increased burden on the manufacturing department to continually update the NC programs.

EdgeCAM's toolpath to model associativity means that even late changes to the model will not affect the manufacturing lead times. EdgeCAM Solid Machinist will detect when the solid design model within Autodesk Inventor has changed and notify the user. It will give the user the option to update the model to the modified version and automatically identify features that are new or have been amended or deleted. The EdgeCAM program can then be regenerated automatically and new NC code produced.

Operational Programming

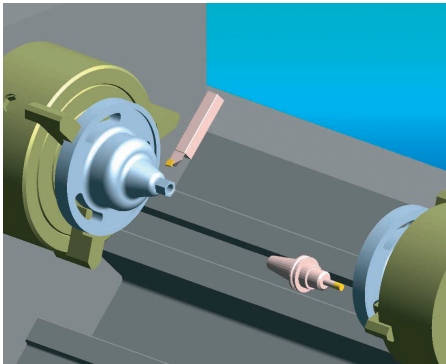
Manufacturing operations can be applied automatically to features - significantly reducing the number of keystrokes, mouse clicks and the time it takes to generate the NC program.



EDGECAM FOR AUTODESK INVENTOR AT A GLANCE

Intelligent Roughing Cycle

A single roughing cycle for the machining of both 2D and 3D areas can be applied to the complete model, providing consistent performance on all types of model. This intelligent cycle will automatically apply the most appropriate approach move for each region of the model and create trochoidal moves to avoid full width cuts. The ability to define 3D stock reduces machining time by eliminating air cutting. Semifinishing is achieved within the same cycle by removing the steps between passes to produce a toolpath of optimum cycle time while at the same time providing good cutting conditions for finishing.



Adaptive Rest Roughing

EdgeCAM's roughing cycle also incorporates rest roughing, where stock is automatically defined by the preceding roughing cycle, the smaller tool only creating a toolpath in the areas that the larger tool could not access.

Finish Machining

Solid models are machined using innovative, reliable and gouge free cycles. Intelligent approach strategies provide improved surface finish while optimizing machining times and maximizing tool life.

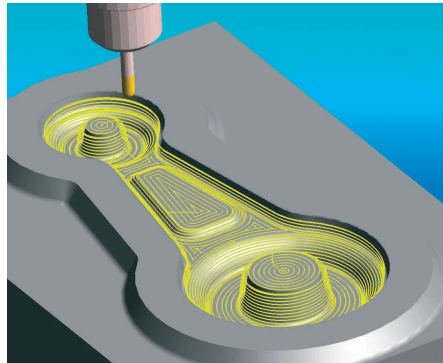
Finishing Cycles

These include Profiling and Parallel Lace strategies. Cusp height control ensures a constant surface finish. Angle detection enables the most efficient cutting strategy to be applied to shallow areas and steep walls.

Flat Land Finishing

Automatically detects the flat areas on the model and applies a lacing or concentric clearance pattern on these

areas. Combined with the Parallel Lace cycle for the machining of steep areas, it provides the most efficient strategy for the machining of free-form components, by ensuring that the most appropriate tooling is used for the machining of different areas of the model.



Advanced Finishing Cycles

Aimed at the mold and die market, advanced finishing cycles include 3D Constant Cusp Finishing, Automated Rest Finishing and Pencil Milling.

Multiplane Machining

EdgeCAM supports the machining of holes, pockets and surfaces on different faces of the part. This reduces total setup time and fully exploits multi-axis machine capabilities.

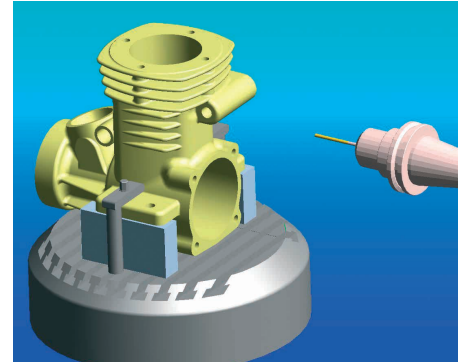
Turning

EdgeCAM Turning provides functionality for a wide range of machine tools, including 2-axis lathes, multi-turret configurations, sub-spindle turning centers and mill/turn machines. On a mill/turn machine, C-, Y- and B-axis milling and drilling take place within the same program as the turning to provide a fully integrated and associative programming solution.

Using Feature Finder, EdgeCAM identifies holes and mill features and creates turn profiles of the maximum turned envelope. These profiles ensure that the whole 3D model is considered for machining by creating a sweep of the maximum turned area, unlike the more usual 'slicing' method, which just considers a 2D profile through a defined plane.

The features and profiles generated are associative to the solid design model. If the model is updated, it can be reloaded into EdgeCAM and the features and turn

profiles are updated automatically. The changes are highlighted in the feature browser and the toolpaths updated to provide rapid manufacturing response to design changes.



Toolpath Simulation

EdgeCAM Simulator is a state-of-the-art tool that simulates and verifies the toolpath against the solid model. The tool, tool holder, stock and fixtures are all included in the simulation. The simulation gives a realistic representation of the machining process, any collisions are clearly displayed on screen and reported to the user.

EdgeCAM Strategy Manager

EdgeCAM Strategy Manager is an interactive, graphical tool used to define and capture the way in which parts are to be cut.

EdgeCAM Strategy Manager allows you to capture best practice manufacturing methods and apply them to subsequent jobs, dramatically reducing programming time.



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